DICOM Conformance Statement

Application Annex:

Multi-Modality Applications on Philips IntelliSpace Portal V10.0

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1. Introduction

This DICOM Conformance Statement annex is applicable to the Multi-Modality Applications on Philips IntelliSpace Portal V10.0 hosting platform, later referred to as Multi-Modality Applications. In general the Multi-Modality Applications are used for viewing and analyzing the images from multiple modalities.

The following analysis packages are offered by Multi-Modality Applications (licensing might be applicable):

- Multi-Modality Viewer
- Multi-Modality Tumor Tracking
- Advanced Vessel Analysis (AVA)

Note: Basic 2D Ultrasound viewing is supported in Multi-Modality Viewer only.

1.1. Revision History

The revision history below provides dates and differences among individual document versions.

Table 1: Revision History

Document Version	Date of Issue	Status	Description
00	28-March-2018	Authorized	Final Version

1.2. Terminology

DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
UID	Unique Identifier
VR	Value Representation

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2. Data Specifications

2.1. Supported IOD's

This section specifies each IOD accepted and / or created by Multi-Modality Applications.

ACCEPTED The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in Multi-Modality Applications for viewing and analysis.

CREATED The Multi-Modality Applications supports generation of derived data by using the applicable IOD and are able to store this data in the repository of the hosting platform.

Table 2: Supported IOD's

IOD		Support	
Name	**UID**	**ACCEPTED**	**CREATED**
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Yes	Yes
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Yes	Yes
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Yes	Yes
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	No	Yes
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Yes	Yes
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Yes	Yes
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Yes	Yes
X-Ray 3D Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.13.1.1	Yes	Yes
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	Yes
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes
Enhanced CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2.1	Yes	No
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Yes	Yes
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Yes	Yes
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Yes	Yes
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Yes	Yes
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Yes	Yes
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Yes	No
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Yes	Yes
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Yes	Yes
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Yes	Yes
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Yes	No
Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Yes	No
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Yes	No
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Yes	Yes

Note:

- *Multi-Modality Viewer will be able to support loading and display of MR images (not including Enhanced DICOM) from multiple vendors.*

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- *Multi-Modality Tumor Tracking application is compliant with CT and NM data from other vendors for import and display (multi-vendor compliant).*
- *Multi-Modality Viewer (MMV) Application: MM Viewer shall be added to the Review applications of Portal with basic CT/MR/NM/US viewing capabilities (including support for Fusion). MM viewer shall be the default review application when data selection includes MRI or NM datasets.*
- *Multi-Modality Viewer cannot create Derived MR Spectroscopy images in Philips IntelliSpace Portal 10.0*
- *Enhanced CT Images (1.2.840.10008.5.1.4.1.1.2.1) will be converted to Classic CT images (1.2.840.10008.5.1.4.1.1.2) upon arrival in Portal. Filters need to be set to enable exporting converted CT images of ECT to DICOM Nodes/CD/DVD/USB. All the generated Presentation States and Book Marks will not be exported and will be retained in Portal itself.*
- *Enhanced MR Images (1.2.840.10008.5.1.4.1.1.4.1) will be converted to Classic MR Image (1.2.840.10008.5.1.4.1.1.4) upon arrival in Portal for internal diagnostic/viewing purposes. While exporting the same studies to DICOM Nodes/CD/DVD/USB, only the original Enhanced MR data as it was arrived into Portal will be exported along with the Portal generated Secondary Captures, Derived Type images, Presentation States and Book Marks.*

2.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by Multi-Modality Applications to which a dataset should adhere before it can be imported into the application.

All system model objects are accepted.

Table 3: Accepted transfer syntaxes per IOD

IOD		Transfer Syntax	
Name	**UID**	**Name**	**UID**
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
X-Ray 3D Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.13.1.1	Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70

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Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Enhanced CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2.1	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2

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Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2

2.1.2. Contents of Created IOD's

This section specifies in detail the attribute contents of created data objects. Attributes are grouped together by its corresponding module as specified by DICOM standard. Philips private attributes are excluded for specification.

Abbreviations used in the Module table for the column "Presence of Value" are:

ALWAYS	The attribute is always present with a value
EMPTY	The attribute is always present without any value (attribute sent zero length)
VNAP	The attribute is always present and its Value is Not Always Present (attribute sent zero length if no value is present)
ANAP	The attribute is present under specified condition – if present then it will always have a value

The abbreviations used in the Module table for the column "Source" are:

AUTO	The attribute value is generated automatically
CONFIG	The attribute value source is a configurable parameter
COPY	The attribute value source is another SOP instance
FIXED	The attribute value is hard-coded in the application
IMPLICIT	The attribute value source is a user-implicit setting
MPPS	The attribute value is the same as that use for Modality Performed Procedure Step
MWL	The attribute value source is a Modality Worklist
USER	The attribute value source is explicit user input

2.1.2.1. Encapsulated PDF Storage

Table 4: IOD of Created Encapsulated PDF Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	Encapsulated Document Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Encapsulated Document	Encapsulated Document Module	ALWAYS
Encapsulated Document	SOP Common Module	ALWAYS

Table 5: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-

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Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 6: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 7: Encapsulated Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Series Description	0008,103E	LO	Reports	ANAP	AUTO	Reports
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	AUTO	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	AUTO	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-

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>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

Table 8: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	Philips
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	COPY	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO		ANAP	FIXED	IntelliSpace Portal
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO		ANAP	FIXED	10.x
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 9: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	
Secondary Capture Device Software Version(s)	0018,1019	LO		ANAP	AUTO	

Table 10: Encapsulated Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		VNAP	AUTO	-
Acquisition Datetime	0008,002A	DT		VNAP	AUTO	-
Content Time	0008,0033	TM		VNAP	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Burned In Annotation	0028,0301	CS	YES	ALWAYS	AUTO	-
Concept Name Code Sequence	0040,A043	SQ		VNAP	AUTO	-
Document Title	0042,0010	ST		VNAP	AUTO	-
Encapsulated Document	0042,0011	OB		ALWAYS	AUTO	-
MIME Type of Encapsulated Document	0042,0012	LO	Application/pdf	ALWAYS	AUTO	-
Source Instance Sequence	0042,0013	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-

Table 11: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	

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Instance Creator UID	0008,0014	UI		ANAP	AUTO	
SOP Class UID	0008,0016	UI		ALWAYS	COPY	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

2.1.2.2. Grayscale Softcopy Presentation State Storage SOP Class

Table 12: IOD of Created Grayscale Softcopy Presentation State Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	Presentation Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Presentation State	Presentation State Identification Module	ALWAYS
Presentation State	Presentation State Relationship Module	ALWAYS
Presentation State	Display Shutter Module	CONDITIONAL
Presentation State	Overlay Plane Module	CONDITIONAL
Presentation State	Overlay Activation Module	CONDITIONAL
Presentation State	Displayed Area Module	CONDITIONAL
Presentation State	Graphic Annotation Module	CONDITIONAL
Presentation State	Spatial Transformation Module	CONDITIONAL
Presentation State	Graphic Layer Module	CONDITIONAL
Presentation State	Modality LUT Module	CONDITIONAL
Presentation State	Softcopy VOI LUT Module	CONDITIONAL
Presentation State	Softcopy Presentation LUT Module	ALWAYS
Presentation State	SOP Common Module	ALWAYS

Table 13: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-

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Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 14: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 15: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 16: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ANAP	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-

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Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	AUTO	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

Table 17: Presentation Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-

Table 18: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	Philips
Institution Name	0008,0080	LO		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	Same as the host Name.
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO		ANAP	FIXED	Philips Portal
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO		ANAP	FIXED	IntelliSpace 10.x

Table 19: Presentation State Identification Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Presentation Creation Date	0070,0082	DA		ALWAYS	AUTO	-
Presentation Creation Time	0070,0083	TM		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Content Label	0070,0080	CS	AS LAST SEEN	ALWAYS	AUTO	Applied values: AS LAST SEEN

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Content Description	0070,0081	LO		VNAP	AUTO	-
Content Creator's Name	0070,0084	PN		VNAP	AUTO	-

Table 20: Presentation State Relationship Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Series Sequence	0008,1115	SQ		ALWAYS	AUTO	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-

Table 21: Display Shutter Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Shutter Presentation Value	0018,1622	US		ANAP	AUTO	Applied value: 0

Table 22: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ANAP	COPY	-
Overlay Columns	6000,0011	US		ANAP	COPY	-
Overlay Description	6000,0022	LO		ANAP	COPY	-
Overlay Type	6000,0040	CS		ANAP	COPY	-
Overlay Subtype	6000,0045	LO		ANAP	COPY	-
Overlay Origin	6000,0050	SS		ANAP	COPY	-
Overlay Bits Allocated	6000,0100	US		ANAP	COPY	-
Overlay Bit Position	6000,0102	US		ANAP	COPY	-
ROI Area	6000,1301	IS		ANAP	COPY	-
ROI Mean	6000,1302	DS		ANAP	COPY	-
ROI Standard Deviation	6000,1303	DS		ANAP	COPY	-
Overlay Label	6000,1500	LO		ANAP	COPY	-
Overlay Data	6000,3000	OW/OB		ANAP	COPY	-

Table 23: Overlay Activation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Activation Layer	6000,1001	CS		ANAP	COPY	Applied value: 1

Table 24: Displayed Area Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Displayed Area Selection Sequence	0070,005A	SQ		ALWAYS	IMPLICIT	
>Referenced Image Sequence	0008,1140	SQ		ANAP	IMPLICIT	
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	IMPLICIT	
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	IMPLICIT	
>Displayed Area Top Left Hand Corner	0070,0052	SL		ALWAYS	IMPLICIT	
>Displayed Area Bottom Right Hand Corner	0070,0053	SL		ALWAYS	IMPLICIT	

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>Presentation Size Mode	0070,0100	CS	MAGNIFY, SCALE TO FIT	ALWAYS	IMPLICIT	
>Presentation Pixel Spacing	0070,0101	DS		ANAP	IMPLICIT	Applied values: (0.0, 0.0)
>Presentation Pixel Aspect Ratio	0070,0102	IS		ANAP	IMPLICIT	-
>Presentation Pixel Magnification Ratio	0070,0103	FL		ANAP	IMPLICIT	Applied value: 1.0
>Zoom Mode	2001,103F	CS		ANAP	IMPLICIT	-

Table 25: Graphic Annotation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Graphic Annotation Sequence	0070,0001	SQ		ANAP	USER	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	USER	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	USER	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	USER	-
>Graphic Layer	0070,0002	CS		ANAP	USER	-
>Text Object Sequence	0070,0008	SQ		ANAP	USER	-
>>Anchor Point Annotation Units	0070,0004	CS		ANAP	USER	-
>>Unformatted Text Value	0070,0006	ST		ANAP	USER	-
>>Anchor Point	0070,0014	FL		ANAP	USER	-
>>Anchor Point Visibility	0070,0015	CS		ANAP	USER	-
>Graphic Object Sequence	0070,0009	SQ		ANAP	USER	-
>>Graphic Annotation Units	0070,0005	CS		ANAP	USER	-
>>Graphic Dimensions	0070,0020	US		ANAP	USER	-
>>Number of Graphic Points	0070,0021	US		ANAP	USER	-
>>Graphic Data	0070,0022	FL		ANAP	USER	-
>>Graphic Type	0070,0023	CS		ANAP	USER	-
>>Graphic Filled	0070,0024	CS		ANAP	USER	-

Table 26: Spatial Transformation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Horizontal Flip	0070,0041	CS		ANAP	COPY	-
Image Rotation	0070,0042	US		ANAP	COPY	-

Table 27: Graphic Layer Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Graphic Layer Sequence	0070,0060	SQ		ALWAYS	IMPLICIT	-
>Graphic Layer	0070,0002	CS		ALWAYS	IMPLICIT	-
>Graphic Layer Order	0070,0062	IS		ALWAYS	IMPLICIT	-

Table 28: Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	
Rescale Slope	0028,1053	DS		ALWAYS	COPY	

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Rescale Type	0028,1054	LO	cm/sec, millirads, milliseconds, mm^2/sec, normalized, seconds, US	ALWAYS	COPY	

Table 29: Softcopy VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Softcopy VOI LUT Sequence	0028,3110	SQ		ALWAYS	AUTO	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Window Center	0028,1050	DS		ALWAYS	AUTO	-
>Window Width	0028,1051	DS		ALWAYS	AUTO	-

Table 30: Softcopy Presentation LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Presentation LUT Sequence	2050,0010	SQ		ANAP	AUTO	Present if Presentation LUT Shape not present.
>LUT Descriptor	0028,3002	US/SS		ALWAYS	AUTO	-
>LUT Data	0028,3006	US/OW		ALWAYS	AUTO	-
Presentation LUT Shape	2050,0020	CS		ALWAYS	AUTO	-

Table 31: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	AUTO	Applied Value(s): 1.2.840.10008.5.1.4.1.1.11.1
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ANAP	AUTO	-

2.1.2.3. Positron Emission Tomography Image Storage SOP Class

Table 32: IOD of Created Positron Emission Tomography Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	PET Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	NM/PET Patient Orientation Module	ALWAYS
Image	PET Isotope Module	ALWAYS

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Image	PET Multi-Gated Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	PET Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 33: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 34: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 35: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-

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Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 36: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	-
Series Time	0008,0031	TM		ANAP	COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-

Table 37: PET Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	COPY	-
Series Time	0008,0031	TM		ALWAYS	COPY	-
Acquisition Start Condition	0018,0073	CS		ANAP	COPY	-
Acquisition Start Condition Data	0018,0074	IS		ANAP	COPY	-
Acquisition Termination Condition Data	0018,0075	IS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Field of View Shape	0018,1147	CS		ANAP	COPY	-
Field of View Dimensions	0018,1149	IS		ANAP	COPY	-
Collimator Type	0018,1181	CS		VNAP	COPY	-
Corrected Image	0028,0051	CS		VNAP	COPY	-
Number of R-R Intervals	0054,0061	US		ANAP	COPY	-
Number of Time Slots	0054,0071	US		ANAP	COPY	-
Number of Slices	0054,0081	US		ALWAYS	COPY	-
Type of Detector Motion	0054,0202	CS		ANAP	COPY	-

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Series Type	0054,1000	CS		ALWAYS	COPY	-
Units	0054,1001	CS		ALWAYS	COPY	-
Counts Source	0054,1002	CS		ALWAYS	COPY	-
Randoms Correction Method	0054,1100	CS		ANAP	COPY	-
Attenuation Correction Method	0054,1101	LO		ANAP	COPY	-
Decay Correction	0054,1102	CS		ALWAYS	COPY	-
Reconstruction Method	0054,1103	LO		ANAP	COPY	-
Scatter Correction Method	0054,1105	LO		ANAP	COPY	-
Axial Mash	0054,1201	IS		ANAP	COPY	-
Coincidence Window Width	0054,1210	DS		ANAP	COPY	-

Table 38: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	AUTO	-
Position Reference Indicator	0020,1040	LO		VNAP	AUTO	-

Table 39: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	Philips
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO		VNAP	FIXED	Philips Portal
Software Version (s)	0018,1020	LO		ANAP	FIXED	10.x
Station Name	0008,1010	SH		ANAP	CONFIG	
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 40: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-

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Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 41: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO	-
Image Position (Patient)	0020,0032	DS		ALWAYS	AUTO	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	AUTO	-
Pixel Spacing	0028,0030	DS		ALWAYS	AUTO	-
Slice Location	0020,1041	DS		ANAP	COPY	-

Table 42: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-

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Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO, COPY	-

Table 43: NM/PET Patient Orientation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient Gantry Relationship Code Sequence	0054,0414	SQ		VNAP	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Patient Orientation Code Sequence	0054,0410	SQ		VNAP	COPY	-
>Patient Orientation Modifier Code Sequence	0054,0412	SQ		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-

Table 44: PET Isotope Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Radiopharmaceutical Information Sequence	0054,0016	SQ		VNAP	COPY	-

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>Radionuclide Half Life	0018,1075	DS		ANAP	COPY	-
>Radionuclide Positron Fraction	0018,1076	DS		ANAP	COPY	-
>Radionuclide Total Dose	0018,1074	DS		ANAP	COPY	-
>Radiopharmaceutical	0018,0031	LO		ANAP	COPY	-
>Radiopharmaceutical Start Time	0018,1072	TM		ANAP	COPY	-
>Radiopharmaceutical Volume	0018,1071	DS		ANAP	COPY	-
>Radionuclide Code Sequence	0054,0300	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Radiopharmaceutical Code Sequence	0054,0304	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		VNAP	COPY	-
>>Code Value	0008,0100	SH		VNAP	COPY	-
>>Coding Scheme Designator	0008,0102	SH		VNAP	COPY	-
Interventional Drug Information Sequence	0018,0026	SQ		ANAP	COPY	-

Table 45: PET Multi-Gated Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Beat Rejection Flag	0018,1080	CS		VNAP	COPY	-
Trigger Source or Type	0018,1061	LO		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Cardiac Framing Type	0018,1064	LO		ANAP	COPY	-

Table 46: PET Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY	ALWAYS	AUTO	-
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-
Rescale Intercept	0028,1052	DS		ALWAYS	AUTO	-
Rescale Slope	0028,1053	DS		ALWAYS	AUTO	-

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Acquisition Date	0008,0022	DA		VNAP	COPY	-
Acquisition Time	0008,0032	TM		VNAP	COPY	-
Actual Frame Duration	0018,1242	IS		VNAP	COPY	-
Decay Factor	0054,1321	DS		ANAP	COPY	-
Dose Calibration Factor	0054,1322	DS		ANAP	COPY	-
Frame Reference Time	0054,1300	DS		ALWAYS	COPY	-
Trigger Time	0018,1060	DS		ANAP	COPY	-
Frame Time	0018,1063	DS		ANAP	COPY	-
Low R R Value	0018,1081	IS		ANAP	COPY	-
High R R Value	0018,1082	IS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Image Index	0054,1330	US		ALWAYS	COPY	-
Nominal Interval	0018,1062	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
Primary (Prompts) Counts Accumulated	0054,1310	IS		ANAP	COPY	-
Secondary Counts Accumulated	0054,1311	IS		ANAP	COPY	-
Slice Sensitivity Factor	0054,1320	DS		ANAP	COPY	-
Scatter Fraction Factor	0054,1323	DS		ANAP	COPY	-
Dead Time Factor	0054,1324	DS		ANAP	COPY	-
View Code Sequence	0054,0220	SQ		ANAP	COPY	-
Slice Progression Direction	0054,0500	CS		ANAP	COPY	-
Anatomic Region Sequence	0008,2218	SQ		ANAP	COPY	-

Table 47: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

Table 48: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

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Table 49: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	
Instance Creator UID	0008,0014	UI		ANAP	AUTO, COPY	
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.128	ALWAYS	AUTO, COPY	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ANAP	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

Table 50: Extended DICOM and private attributes for Positron Emission Tomography Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Number	2001,107C	IS		ANAP	AUTO	-
Slice Index	2001,10DE	DS		ANAP	AUTO	-
Referenced Overlay Sequence	0008,1130	SQ		ANAP	COPY	-
Reference Curve Sequence	0008,1145	SQ		ANAP	COPY	-
Primary Anatomic Structure Sequence	0008,2228	SQ		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-

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Curve Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

2.1.2.4. CT Image Storage SOP Class

Table 51: IOD of Created CT Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Device Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	CT Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 52: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 53: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-

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Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 54: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 55: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-

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Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 56: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	COPY	-
Position Reference Indicator	0020,1040	LO		VNAP	COPY	-

Table 57: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	FIXED	
Station Name	0008,1010	SH		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	Philips Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	FIXED	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 58: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-

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Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 59: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	-

Table 60: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-

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Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-

Table 61: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-
Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 62: Device Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Device Sequence	0050,0010	SQ		ANAP	COPY	
>Manufacturer	0008,0070	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO	Philips Portal	ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Device ID	0018,1003	LO		ANAP	COPY	
>Device Length	0050,0014	DS		ANAP	COPY	
>Device Diameter	0050,0016	DS		ANAP	COPY	
>Device Diameter Units	0050,0017	CS		ANAP	COPY	
>Device Volume	0050,0018	DS		ANAP	COPY	
>Intermarker Distance	0050,0019	DS		ANAP	COPY	
>Device Description	0050,0020	LO		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Mapping Resource	0008,0105	CS		ANAP	COPY	
>Context Group Version	0008,0106	DT		ANAP	COPY	
>Context Group Local Version	0008,0107	DT		ANAP	COPY	
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	

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>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	
>Context Identifier	0008,010F	CS		ANAP	COPY	

Table 63: CT Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Scan Options	0018,0022	CS		ANAP	AUTO, COPY	-
KVP	0018,0060	DS		VNAP	COPY	-
Data Collection Diameter	0018,0090	DS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Distance Source to Detector	0018,1110	DS		ANAP	COPY	-
Distance Source to Patient	0018,1111	DS		ANAP	COPY	-
Gantry/Detector Tilt	0018,1120	DS		ANAP	COPY	-
Table Height	0018,1130	DS		ANAP	COPY	-
Rotation Direction	0018,1140	CS		ANAP	COPY	-
Exposure Time	0018,1150	IS		ANAP	COPY	-
X-ray Tube Current	0018,1151	IS		ANAP	COPY	-
Exposure	0018,1152	IS		ANAP	COPY	-
Exposure in µAs	0018,1153	IS		ANAP	COPY	-
Filter Type	0018,1160	SH		ANAP	COPY	-
Generator Power	0018,1170	IS		ANAP	COPY	-
Focal Spot(s)	0018,1190	DS		ANAP	COPY	-
Convolution Kernel	0018,1210	SH		ANAP	COPY	-
Revolution Time	0018,9305	FD		ANAP	COPY	-
Single Collimation Width	0018,9306	FD		ANAP	COPY	-
Total Collimation Width	0018,9307	FD		ANAP	COPY	-
Table Speed	0018,9309	FD		ANAP	COPY	-
Table Feed per Rotation	0018,9310	FD		ANAP	COPY	-
Spiral Pitch Factor	0018,9311	FD		ANAP	COPY	-
Acquisition Number	0020,0012	IS		VNAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-

Table 64: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-

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ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ALWAYS	AUTO	-

Table 65: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	COPY	-
Window Width	0028,1051	DS		ANAP	COPY	-
Window Center & Width Explanation	0028,1055	LO		ANAP	COPY	-
VOI LUT Sequence	0028,3010	SQ		ANAP	COPY	-

Table 66: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

Table 67: Extended DICOM and private attributes for CT Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modalities in Study	0008,0061	CS		ANAP	COPY	-
Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-
Pregnancy Status	0010,21C0	US		ANAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Angular Position	0018,1141	DS		ANAP	COPY	-

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Scan Arc	0018,1143	DS		ANAP	COPY	-
CT Exposure Sequence	0018,9321	SQ		ANAP	COPY	-
>Exposure Modulation Type	0018,9323	CS		ANAP	COPY	-
>Estimated Dose Saving	0018,9324	FD		ANAP	COPY	-
>Exposure Time in ms	0018,9328	FD		ANAP	COPY	-
>X-Ray Tube Current in mA	0018,9330	FD		ANAP	COPY	-
>Exposure in mAs	0018,9332	FD		ANAP	COPY	-
Number of Study Related Series	0020,1206	IS		ANAP	COPY	-
Number of Study Related Instances	0020,1208	IS		ANAP	COPY	-
Requesting Physician	0032,1032	PN		ANAP	COPY	-
Requesting Service	0032,1033	LO		ANAP	COPY	-
Requested Procedure Description	0032,1060	LO		ANAP	COPY	-
Requested Contrast Agent	0032,1070	LO		ANAP	COPY	-
Admission ID	0038,0010	LO		ANAP	COPY	-
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Confidentiality Constraint on Patient Data Description	0040,3001	LO		ANAP	COPY	-
DateTime	0040,A120	DT		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

2.1.2.5. Ultrasound Image Storage (Retired)

Table 68: IOD of Created Ultrasound Image Storage (Retired) Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS

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Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 69: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	

Table 70: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	AUTO, COPY	
Study Time	0008,0030	TM		VNAP	AUTO, COPY	
Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	
Study ID	0020,0010	SH		VNAP	AUTO, COPY	

Table 71: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	
Series Time	0008,0031	TM		ANAP	AUTO	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	AUTO, USER	
Performing Physician's Name	0008,1050	PN		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Body Part Examined	0018,0015	CS		ANAP	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		VNAP	AUTO	
Request Attributes Sequence	0040,0275	SQ		ANAP	AUTO	
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	AUTO	

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>Requested Procedure ID	0040,1001	SH		ANAP	AUTO	

Table 72: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP	COPY	

Table 73: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	

Table 74: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	AUTO	
Acquisition Date	0008,0022	DA		ANAP	COPY	
Content Date	0008,0023	DA		ANAP	COPY	
Acquisition Time	0008,0032	TM		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Derivation Description	0008,2111	ST		ANAP	COPY	
Source Image Sequence	0008,2112	SQ		ANAP	COPY	
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	
>Rows	0028,0010	US		ALWAYS	COPY	
>Columns	0028,0011	US		ALWAYS	COPY	
>Pixel Data	7FE0,0010	OW/ OB		ANAP	COPY	

Table 75: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	
Columns	0028,0011	US		ALWAYS	AUTO, COPY	
Pixel Data	7FE0,0010	OW/ OB		ANAP	AUTO, COPY	

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Table 76: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 77: US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED\SECONDARY	VNAP		
Samples per Pixel	0028,0002	US		ALWAYS		
Photometric Interpretation	0028,0004	CS		ALWAYS		
Planar Configuration	0028,0006	US		ANAP		
Bits Allocated	0028,0100	US	8	ALWAYS		
Bits Stored	0028,0101	US	8	ALWAYS		
High Bit	0028,0102	US	7	ALWAYS		
Pixel Representation	0028,0103	US	0	ALWAYS		

Table 78: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	AUTO	
Window Width	0028,1051	DS		ANAP	AUTO	

Table 79: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP		
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.6	ALWAYS		1.2.840.10008.5.1.4.1.1.6
SOP Instance UID	0008,0018	UI		ALWAYS		
Contributing Equipment Sequence	0018,A001	SQ		ANAP		
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH		ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO		ALWAYS	FIXED	
Instance Number	0020,0013	IS		ANAP		

Table 80: Extended DICOM and private attributes for Ultrasound Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	

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2.1.2.6. Ultrasound Image Storage SOP Class

Table 81: IOD of Created Ultrasound Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 82: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	
Other Patient IDs	0010,1000	LO		ANAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	

Table 83: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	AUTO, COPY	
Study Time	0008,0030	TM		VNAP	AUTO, COPY	
Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	
Study ID	0020,0010	SH		VNAP	AUTO, COPY	

Table 84: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	
Patient's Size	0010,1020	DS		ANAP	COPY	
Patient's Weight	0010,1030	DS		ANAP	COPY	

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Table 85: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	
Series Time	0008,0031	TM		ANAP	AUTO	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	AUTO	
Performing Physician's Name	0008,1050	PN		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Body Part Examined	0018,0015	CS		ANAP	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		VNAP	AUTO	
Request Attributes Sequence	0040,0275	SQ		ANAP	AUTO	
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	AUTO	
>Requested Procedure ID	0040,1001	SH		ANAP	AUTO	

Table 86: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP	COPY	

Table 87: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	

Table 88: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	AUTO	
Acquisition Date	0008,0022	DA		ANAP	COPY	
Content Date	0008,0023	DA		ANAP	COPY	
Acquisition Time	0008,0032	TM		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Derivation Description	0008,2111	ST		ANAP	COPY	
Source Image Sequence	0008,2112	SQ		ANAP	COPY	
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	

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>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	
>Rows	0028,0010	US		ALWAYS	COPY	
>Columns	0028,0011	US		ALWAYS	COPY	
>Pixel Data	7FE0,0010	O W/ OB		ANAP	COPY	

Table 89: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	
Columns	0028,0011	US		ALWAYS	AUTO, COPY	
Pixel Data	7FE0,0010	OW/ OB		ANAP	AUTO, COPY	

Table 90: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 91: US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED\SECONDARY	VNAP		
Samples per Pixel	0028,0002	US		ALWAYS		
Photometric Interpretation	0028,0004	CS		ALWAYS		
Planar Configuration	0028,0006	US		ANAP		
Bits Allocated	0028,0100	US	8	ALWAYS		
Bits Stored	0028,0101	US	8	ALWAYS		
High Bit	0028,0102	US	7	ALWAYS		
Pixel Representation	0028,0103	US	0	ALWAYS		

Table 92: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	AUTO	
Window Width	0028,1051	DS		ANAP	AUTO	

Table 93: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP		
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.6.1	ALWAYS		
SOP Instance UID	0008,0018	UI		ALWAYS		
Contributing Equipment Sequence	0018,A001	SQ		ANAP		
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	

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>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO	0	ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	
Instance Number	0020,0013	IS		ANAP		

Table 94: Extended DICOM and private attributes for Ultrasound Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	

2.1.2.7. Ultrasound Multi-frame Image Storage (Retired)

Table 95: IOD of Created Ultrasound Multi-frame Image Storage (Retired) Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Cine Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	US Region Calibration Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	SOP Common Module	ALWAYS
	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 96: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	

Table 97: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	
Study Time	0008,0030	TM		VNAP	COPY	

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Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	
>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
Study ID	0020,0010	SH		VNAP	AUTO, COPY	

Table 98: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO, COPY	
Series Time	0008,0031	TM		ANAP	AUTO, COPY	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	COPY	
Performing Physician's Name	0008,1050	PN		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	
Body Part Examined	0018,0015	CS		ANAP	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	
Series Number	0020,0011	IS		VNAP	COPY	
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	

Table 99: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP		

Table 100: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	

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Table 101: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	
Acquisition Date	0008,0022	DA		ANAP	COPY	
Content Date	0008,0023	DA		ANAP	COPY	
Acquisition Time	0008,0032	TM		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Derivation Description	0008,2111	ST		ANAP	COPY	
Source Image Sequence	0008,2112	SQ		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Burned In Annotation	0028,0301	CS		ANAP	COPY	
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	
>Rows	0028,0010	US		ALWAYS	COPY	
>Columns	0028,0011	US		ALWAYS	COPY	
>Pixel Data	7FE0,0010	O W/ OB		ALWAYS	COPY	
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	

Table 102: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	
Columns	0028,0011	US		ALWAYS	AUTO, COPY	
Pixel Data	7FE0,0010	OW/ OB		ALWAYS	AUTO, COPY	

Table 103: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 104: Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time	0018,1063	DS		ANAP	AUTO	

Table 105: Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	IS		ALWAYS	AUTO	
Frame Increment Pointer	0028,0009	AT		ALWAYS	AUTO	

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Table 106: US Region Calibration Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Sequence of Ultrasound Regions	0018,6011	SQ		ALWAYS	AUTO, COPY	
>Region Spatial Format	0018,6012	US		ALWAYS	AUTO, COPY	
>Region Data Type	0018,6014	US		ALWAYS	AUTO, COPY	
>Region Flags	0018,6016	UL		ALWAYS	AUTO, COPY	
>Region Location Min X0	0018,6018	UL		ALWAYS	AUTO, COPY	
>Region Location Min Y0	0018,601A	UL		ALWAYS	AUTO, COPY	
>Region Location Max X1	0018,601C	UL		ALWAYS	AUTO, COPY	
>Region Location Max Y1	0018,601E	UL		ALWAYS	AUTO, COPY	
>Physical Units X Direction	0018,6024	US		ALWAYS	AUTO, COPY	
>Physical Units Y Direction	0018,6026	US		ALWAYS	AUTO, COPY	
>Physical Delta X	0018,602C	FD		ALWAYS	AUTO, COPY	
>Physical Delta Y	0018,602E	FD		ALWAYS	AUTO, COPY	

Table 107: US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO, COPY	
Bits Stored	0028,0101	US	8	ALWAYS	AUTO, COPY	
High Bit	0028,0102	US	7	ALWAYS	AUTO, COPY	
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	

Table 108: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.3	ANAP	COPY	
SOP Instance UID	0008,0018	UI		ANAP	AUTO	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	

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>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	
Instance Number	0020,0013	IS		ANAP	AUTO	

Table 109: Extended DICOM and private attributes for Ultrasound Multi-frame Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	

2.1.2.8. Ultrasound Multi-frame Image Storage

Table 110: IOD of Created Ultrasound Multi-frame Image Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Cine Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	US Region Calibration Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 111: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	
Other Patient IDs	0010,1000	LO		ANAP	COPY	
Ethnic Group	0010,2160	SH		ANAP	COPY	
Patient Comments	0010,4000	LT		ANAP	COPY	
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	

Table 112: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	
Study Time	0008,0030	TM		VNAP	COPY	
Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	

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Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
Study ID	0020,0010	SH		VNAP	AUTO, COPY	

Table 113: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	
Patient's Size	0010,1020	DS		ANAP	COPY	
Patient's Weight	0010,1030	DS		ANAP	COPY	

Table 114: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO, COPY	
Series Time	0008,0031	TM		ANAP	AUTO, COPY	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	COPY	
Performing Physician's Name	0008,1050	PN		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	
Body Part Examined	0018,0015	CS		ANAP	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	
Series Number	0020,0011	IS		VNAP	COPY	
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	

Table 115: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP		

Table 116: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	

Table 117: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	

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Acquisition Date	0008,0022	DA		ANAP	COPY	
Content Date	0008,0023	DA		ANAP	COPY	
Acquisition Time	0008,0032	TM		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Derivation Description	0008,2111	ST		ANAP	COPY	
Source Image Sequence	0008,2112	SQ		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Burned In Annotation	0028,0301	CS		ANAP	COPY	
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	
>Rows	0028,0010	US		ALWAYS	COPY	
>Columns	0028,0011	US		ALWAYS	COPY	
>Pixel Data	7FE0,0010	O W/ OB		ALWAYS	COPY	
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	

Table 118: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	
Columns	0028,0011	US		ALWAYS	AUTO, COPY	
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO, COPY	

Table 119: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 120: Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time	0018,1063	DS		ANAP	AUTO	

Table 121: Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	IS		ALWAYS	AUTO	
Frame Increment Pointer	0028,0009	AT		ALWAYS	AUTO	

Table 122: US Region Calibration Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Sequence of Ultrasound Regions	0018,6011	SQ		ALWAYS	AUTO, COPY	

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>Region Spatial Format	0018,6012	US		ALWAYS	AUTO, COPY	
>Region Data Type	0018,6014	US		ALWAYS	AUTO, COPY	
>Region Flags	0018,6016	UL		ALWAYS	AUTO, COPY	
>Region Location Min X0	0018,6018	UL		ALWAYS	AUTO, COPY	
>Region Location Min Y0	0018,601A	UL		ALWAYS	AUTO, COPY	
>Region Location Max X1	0018,601C	UL		ALWAYS	AUTO, COPY	
>Region Location Max Y1	0018,601E	UL		ALWAYS	AUTO, COPY	
>Physical Units X Direction	0018,6024	US		ALWAYS	AUTO, COPY	
>Physical Units Y Direction	0018,6026	US		ALWAYS	AUTO, COPY	
>Physical Delta X	0018,602C	FD		ALWAYS	AUTO, COPY	
>Physical Delta Y	0018,602E	FD		ALWAYS	AUTO, COPY	

Table 123: US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	
Bits Allocated	0028,0100	US		ALWAYS	AUTO, COPY	
Bits Stored	0028,0101	US		ALWAYS	AUTO, COPY	
High Bit	0028,0102	US		ALWAYS	AUTO, COPY	
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	

Table 124: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	
SOP Class UID	0008,0016	UI		ANAP	COPY	
SOP Instance UID	0008,0018	UI		ANAP	AUTO	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	
Instance Number	0020,0013	IS		ANAP	AUTO	

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Table 125: Extended DICOM and private attributes for Ultrasound Multi-frame Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	

2.1.2.9. Nuclear Medicine Image Storage SOP Class

Table 126: IOD of Created Nuclear Medicine Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	NM/PET Patient Orientation Module	ALWAYS
Image	NM Image Pixel Module	ALWAYS
Image	NM Multi-Frame Module	ALWAYS
Image	NM Image Module	ALWAYS
Image	NM Isotope Module	ALWAYS
Image	NM Detector Module	ALWAYS
Image	NM Tomo Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	NM Multi-gated Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	NM Reconstruction Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	NM Phase Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 127: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

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Table 128: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 129: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 130: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-

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Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 131: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	AUTO	-
Position Reference Indicator	0020,1040	LO		VNAP	AUTO	-

Table 132: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	VNAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version (s)	0018,1020	LO	10.x	ANAP	FIXED	
Station Name	0008,1010	SH		ANAP	COPY	
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 133: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-

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Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		ALWAYS	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 134: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-

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Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO	-

Table 135: Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	IS		ALWAYS	AUTO, COPY	-

Table 136: NM/PET Patient Orientation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient Gantry Relationship Code Sequence	0054,0414	SQ		VNAP	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Patient Orientation Code Sequence	0054,0410	SQ		VNAP	COPY	-
>Patient Orientation Modifier Code Sequence	0054,0412	SQ		ALWAYS	COPY	-
>>Code Meaning	00080104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Code Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-

Table 137: NM Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Pixel Spacing	0028,0030	DS		VNAP	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-

Table 138: NM Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Detector Vector	0054,0020	US		ANAP	COPY	-
Energy Window Vector	0054,0010	US		ANAP	COPY	-
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	-
Number of Detectors	0054,0021	US		ANAP	COPY	-
Number of Energy Windows	0054,0011	US		ALWAYS	COPY	-
Number of R-R Intervals	0054,0061	US		ANAP	COPY	-
Number of Rotations	0054,0051	US		ANAP	COPY	-
Number of Slices	0054,0081	US		ANAP	COPY	-

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Number of Time Slots	0054,0071	US		ANAP	COPY	-
R-R Interval Vector	0054,0060	US		ANAP	COPY	-
Rotation Vector	0054,0050	US		ANAP	COPY	-
Slice Vector	0054,0080	US		ANAP	COPY	-
Time Slot Vector	0054,0070	US		ANAP	COPY	-

Table 139: NM Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY	ALWAYS	AUTO	-
Acquisition Termination Condition	0018,0071	CS		ANAP	COPY	-
Corrected Image	0028,0051	CS		ANAP	COPY	-
Counts Accumulated	0018,0070	IS		VNAP	COPY	-
Image ID	0054,0400	SH		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Table Height	0018,1130	DS		ANAP	COPY	-
Table Traverse	0018,1131	DS		ANAP	COPY	-
Actual Frame Duration	0018,1242	IS		ANAP	COPY	-
Count Rate	0018,1243	IS		ANAP	COPY	-
Processing Function	0018,5020	LO		ANAP	COPY	-
Whole Body Technique	0018,1301	CS		ANAP	COPY	-
Scan Velocity	0018,1300	DS		ANAP	COPY	-
Scan Length	0018,1302	IS		ANAP	COPY	-
Trigger Source OR Type	0018,1061	LO		ANAP	COPY	-
Anatomic Region Sequence	0008,2218	SQ		ANAP	COPY	-

Table 140: NM Isotope Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Energy Window Information Sequence	0054,0012	SQ		VNAP	COPY	-
>Energy Window Name	0054,0018	SH		VNAP	COPY	-
>Energy Window Range Sequence	0054,0013	SQ		VNAP	COPY	-
>>Energy Window Lower Limit	0054,0014	DS		VNAP	COPY	-
>>Energy Window Upper Limit	0054,0015	DS		VNAP	COPY	-
Radiopharmaceutical Information Sequence	0054,0016	SQ		VNAP	COPY	-
>Radionuclide Total Dose	0018,1074	DS		ALWAYS	COPY	-
>Radiopharmaceutical	0018,0031	LO		VNAP	COPY	-
>Radiopharmaceutical Start Time	0018,1072	TM		ALWAYS	COPY	-
>Radiopharmaceutical Volume	0018,1071	DS		VNAP	COPY	-

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>Radionuclide Code Sequence	0054,0300	SQ		VNAP	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Intervention Drug Information Sequence	0018,0028	SQ		ANAP	COPY	-
Intervention Drug Sequence	0018,0028	SQ		ANAP	COPY	-

Table 141: NM Detector Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Detector Information Sequence	0054,0022	SQ		VNAP	COPY	-
>Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
>Zoom Center	0028,0032	DS		ANAP	COPY	-
>Collimator Type	0018,1181	CS		ALWAYS	COPY	-
>Collimator/grid Name	0018,1180	SH		ANAP	COPY	-
>Focal Distance	0018,1182	IS		VNAP	COPY	-
>Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
>View Code Sequence	0054,0220	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		VNAP	COPY	-
>>Code Value	0008,0100	SH		VNAP	COPY	-
>>Coding Scheme Designator	0008,0102	SH		VNAP	COPY	-

Table 142: NM Tomo Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rotation Information Sequence	0054,0052	SQ		VNAP	COPY	-
>Actual Frame Duration	0018,1242	IS		VNAP	COPY	-
>Angular Step	0018,1144	DS		VNAP	COPY	-
>Number of Frames in Rotation	0054,0053	US		VNAP	COPY	-
>Rotation Direction	0018,1140	CS		VNAP	COPY	-
>Scan Arc	0018,1143	DS		VNAP	COPY	-
>Start Angle	0054,0200	DS		VNAP	COPY	-
>Table Height	0018,1130	DS		VNAP	COPY	-

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>Table Traverse	0018,1131	DS		VNAP	COPY	-
Type of Detector Motion	0054,0202	CS		ANAP	COPY	-

Table 143: NM Multi-gated Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Gated Information Sequence	0054,0062	SQ		ANAP	COPY	-
>Data Information Sequence	0054,0063	SQ		VNAP	COPY	-
>>Frame Time	0018,1063	DS		VNAP	COPY	-
>>Time Slot Information Sequence	0054,0072	SQ		VNAP	COPY	-
>>>Time Slot Time	0054,0073	DS		ANAP	COPY	-
Beat Rejection Flag	0018,1080	CS		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-

Table 144: NM Reconstruction Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO	-
Spacing Between Slices	0018,0088	DS		VNAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Convolution Kernel	0018,1210	SH		ANAP	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Slice Progression Direction	0054,0500	CS		ANAP	COPY	-

Table 145: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

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Table 146: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

Table 147: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.20	ALWAYS	COPY, AUTO	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

Table 148:NM Phase Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Phase Information Sequence	0054,0032			ANAP	COPY	-
>Phase Delay	0054,0036			ALWAYS	COPY	-
>Actual Frame Duration	0018,1242			ALWAYS	COPY	-
>Pause Between Frames	0054,0038			ALWAYS	COPY	-
>Number of Frames in Phase	0054,0033			ALWAYS	COPY	-
>Trigger Vector	0054,0210			ANAP	COPY	-
>Number of Triggers in Phase	0054,0211			ANAP	COPY	-
>Phase Description	0054,0039			ANAP	COPY	-

Table 149: Extended DICOM and private attributes for Nuclear Medicine Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	AUTO	-
Rescale Slope	0028,1053	DS		ANAP	AUTO	-
Series Type (PIIM)	2001,106E	SH		ANAP	AUTO	-

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Frame Number	2001,107C	IS	1	ANAP	AUTO	-
Frame Pixel Data	2001,107D	OW/OB		ANAP	AUTO	-
Frame Index Pointer	2001,10D0	DS		ANAP	AUTO	-
Index Number Vector	2001,10D1	DS		ANAP	AUTO	-
Frame Slice Number	2001,10D7	DS	1	ANAP	AUTO	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Curve Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-
Referenced Overlay Sequence	0008,1130	SQ		ANAP	COPY	-
Reference Curve Sequence	0008,1145	SQ		ANAP	COPY	-
Primary Anatomic Structure Sequence	0008,2228	SQ		ANAP	COPY	-

2.1.2.10. MR Image Storage SOP Class

Table 150: IOD of Created MR Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	MR Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

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Table 151: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 152: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 153: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

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Table 154: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	Generated by IntelliSpace Portal 10.x
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		VNAP	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		VNAP	COPY	-
>Scheduled Protocol Code Sequence	0040,0008	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ALWAYS	COPY	-
>Requested Procedure ID	0040,1001	SH		ALWAYS	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ALWAYS	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ALWAYS	COPY	-
Performed Procedure Step ID	0040,0253	SH		ALWAYS	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		VNAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

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Table 155: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	COPY	-
Position Reference Indicator	0020,1040	LO		VNAP	COPY, FIXED	-

Table 156: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	COPY	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	System serial number.
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 157: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	IMPLICIT	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	IMPLICIT	-
Acquisition Number	0020,0012	IS		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		ALWAYS	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY, FIXED	Applied value: 00
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-

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>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY, FIXED	Applied value: IDENTITY

Table 158: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO, COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	AUTO, COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	AUTO, COPY	-
Slice Location	0020,1041	DS		ANAP	AUTO, COPY	Value is distance between the image plain and the reference point (0, 0, and 0). Value can be negative depending on the position of the plain to the reference point.
Pixel Spacing	0028,0030	DS		ALWAYS	AUTO, COPY	-

Table 159: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Rows	0028,0010	US		ALWAYS	IMPLICIT	Applied values: min: 64 - max: 2048
Columns	0028,0011	US		ALWAYS	IMPLICIT	Applied values: min: 64 - max: 2048
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY, FIXED	Applied value: (1\1)
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	IMPLICIT	-

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Table 160: MR Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	Applied values: ({ORIGINAL, DERIVED}, PRIMARY, {T2_STAR, R2, R2_STAR, W, F, IP, OP, KTRANS, KEP, VE, VP}, {KTRANS, KEP, VE, VP}, {UNSPECIFIED})
Scanning Sequence	0018,0020	CS		ALWAYS	AUTO, COPY	-
Sequence Variant	0018,0021	CS		ALWAYS	AUTO, COPY	-
Scan Options	0018,0022	CS		VNAP	IMPLICIT	-
MR Acquisition Type	0018,0023	CS		ANAP	AUTO, COPY	-
Sequence Name	0018,0024	SH		ANAP	AUTO, COPY	-
Angio Flag	0018,0025	CS		ANAP	AUTO, COPY	-
Repetition Time	0018,0080	DS		ANAP	COPY	-
Echo Time	0018,0081	DS		ANAP	COPY	-
Inversion Time	0018,0082	DS		ANAP	COPY	-
Number of Averages	0018,0083	DS		ANAP	COPY	-
Imaging Frequency	0018,0084	DS		ANAP	COPY	-
Imaged Nucleus	0018,0085	SH		ANAP	COPY	-
Echo Number(s)	0018,0086	IS		ANAP	COPY	-
Magnetic Field Strength	0018,0087	DS		ANAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Number of Phase Encoding Steps	0018,0089	IS		ANAP	COPY	-
Echo Train Length	0018,0091	IS		VNAP	COPY	-
Percent Sampling	0018,0093	DS		ANAP	COPY	-
Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
Pixel Bandwidth	0018,0095	DS		ANAP	COPY	-
Trigger Time	0018,1060	DS		ANAP	COPY	Will only have a value if Dynamic Series (2001,1012) Equals 1
Nominal Interval	0018,1062	IS		ANAP	COPY	-
Beat Rejection Flag	0018,1080	CS		ANAP	COPY	-
Low R-R Value	0018,1081	IS		ANAP	COPY	-
High R-R Value	0018,1082	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Cardiac Number of Images	0018,1090	IS		ANAP	COPY	-
Trigger Window	0018,1094	IS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	Value is a copy of the largest value of the Field of View.
Receive Coil Name	0018,1250	SH		ANAP	COPY	-
Transmit Coil Name	0018,1251	SH		ANAP	COPY	-
Acquisition Matrix	0018,1310	US		ANAP	COPY	-
In-plane Phase Encoding Direction	0018,1312	CS		ANAP	COPY	-
Flip Angle	0018,1314	DS		ANAP	COPY	-

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Variable Flip Angle Flag	0018,1315	CS		ANAP	COPY	-
SAR	0018,1316	DS		ANAP	COPY	-
dB/dt	0018,1318	DS		ANAP	COPY	-
Temporal Position Identifier	0020,0100	IS		ANAP	COPY	-
Number of Temporal Positions	0020,0105	IS		ANAP	COPY	-
Temporal Resolution	0020,0110	DS		ALWAYS	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ANAP	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-

Table 161: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

Table 162: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-

Table 163: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY, FIXED	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-

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>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment

Table 164: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-
Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 165: Extended DICOM and private attributes for MR Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Code Value	0008,0100	SH		VNAP	AUTO	-
Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	-
Coding Scheme Version	0008,0103	SH		ANAP	AUTO	-
Code Meaning	0008,0104	LO		VNAP	AUTO	-
Derivation Image Sequence	0008,9124	SQ		ANAP	AUTO	-
>Source Image Sequence	0008,2112	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>>Code Value	0008,0100	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Version	0008,0103	SH		ANAP	AUTO	From CID 7203
>>Code Meaning	0008,0104	LO		ANAP	AUTO	From CID 7203
Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-

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Pregnancy Status	0010,21C0	US		VNAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	-
Diffusion b-value	0018,9087	FD		ANAP	AUTO	-
Diffusion Gradient Orientation	0018,9089	FD		ANAP	AUTO	-
Rescale Intercept	0028,1052	DS		ANAP	COPY	-
Rescale Slope	0028,1053	DS		ANAP	COPY	-
Rescale Type	0028,1054	LO		ANAP	COPY	-
Requesting Physician	0032,1032	PN		VNAP	COPY	-
Requesting Service	0032,1033	LO		VNAP	COPY	-
Requested Procedure Description	0032,1060	LO		VNAP	COPY	-
Requested Contrast Agent	0032,1070	LO		VNAP	COPY	-
Study Comments (retired)	0032,4000	LT		VNAP	COPY	-
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		VNAP	COPY	-
Performed Station AE Title	0040,0241	AE		ANAP	COPY	-
Performed Station Name	0040,0242	SH		ANAP	COPY	-
Performed Location	0040,0243	SH		ANAP	COPY	-
Performed Procedure Step End Date	0040,0250	DA		VNAP	COPY	-
Performed Procedure Step End Time	0040,0251	TM		VNAP	COPY	-
Performed Procedure Step Status	0040,0252	CS		ANAP	COPY	-
Film Consumption Sequence	0040,0321	SQ		EMPTY	AUTO	-
Requested Procedure ID	0040,1001	SH		VNAP	COPY	-
Reason for the Requested Procedure	0040,1002	LO		VNAP	COPY	-
Requested Procedure Priority	0040,1003	SH		VNAP	COPY	-
Patient Transport Arrangements	0040,1004	LO		VNAP	COPY	-
Requested Procedure Location	0040,1005	LO		VNAP	COPY	-
Requested Procedure Comments	0040,1400	LT		VNAP	COPY	-
Reason for the Imaging Service Request (retired)	0040,2001	LO		VNAP	COPY	-
Issue Date of Imaging Service Request	0040,2004	DA		VNAP	COPY	-
Issue Time of Imaging Service Request	0040,2005	TM		VNAP	COPY	-
Order Enterer's Location	0040,2009	SH		VNAP	COPY	-
Order Callback Phone Number	0040,2010	SH		VNAP	COPY	-
Imaging Service Request Comments	0040,2400	LT		VNAP	COPY	-
Real World Value Mapping Sequence	0040,9096	SQ		ANAP	AUTO	-
>Real World Value Intercept	0040,9224	FD		ANAP	AUTO	-
>Real World Value Slope	0040,9225	FD		ANAP	AUTO	-
Private Creator Group 2001	2001,0010	LO		ANAP	FIXED	-
Chemical Shift	2001,1001	FL		ANAP	COPY	-
Chemical Shift Number MR	2001,1002	IS		ANAP	COPY	-
Diffusion B-Factor	2001,1003	FL		ANAP	COPY	-

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Diffusion Direction	2001,1004	CS		ANAP	COPY	-
Image Enhanced	2001,1006	CS		VNAP	COPY	-
Image Type ED ES	2001,1007	CS		VNAP	COPY	-
Phase Number	2001,1008	IS		VNAP	COPY	-
Image Prepulse Delay	2001,1009	FL		ANAP	COPY	-
Slice Number MR	2001,100A	IS		VNAP	IMPLICIT	-
Slice Orientation	2001,100B	CS		ANAP	IMPLICIT	-
Arrhythmia Rejection	2001,100C	CS		ANAP	COPY	-
Cardiac Cycled	2001,100E	CS		ANAP	COPY	-
Cardiac Gate Width	2001,100F	SS		ANAP	COPY	-
Cardiac Sync	2001,1010	CS		ANAP	COPY	-
Diffusion Echo Time	2001,1011	FL		ANAP	IMPLICIT	-
Dynamic Series	2001,1012	CS		VNAP	COPY	-
EPI Factor	2001,1013	SL		ANAP	COPY	-
Number of Echoes	2001,1014	SL		VNAP	COPY	-
Number of Locations	2001,1015	SS		VNAP	COPY	-
Number of PC Directions	2001,1016	SS		VNAP	COPY	-
Number of Phases MR	2001,1017	SL		VNAP	COPY	-
Number of Slices MR	2001,1018	SL		VNAP	IMPLICIT, USER	-
Partial Matrix Scanned	2001,1019	CS		VNAP	COPY	-
PC Velocity	2001,101A	FL		ANAP	COPY	-
Prepulse Delay	2001,101B	FL		VNAP	COPY	-
Prepulse Type	2001,101C	CS		VNAP	COPY	-
Reconstruction Number MR	2001,101D	IS		VNAP	IMPLICIT	-
Respiration Sync	2001,101F	CS		VNAP	COPY	-
Scanning Technique	2001,1020	LO		ANAP	COPY	-
SPIR	2001,1021	CS		VNAP	COPY	-
Water Fat Shift	2001,1022	FL		VNAP	COPY	-
Flip Angle Philips	2001,1023	DS		ANAP	COPY	-
Series is Interactive	2001,1024	CS		VNAP	COPY	-
Echo Time Display	2001,1025	SH		VNAP	COPY	-
Contrast Transfer Taste	2001,1058	UL		ANAP	COPY	-
Number of Stacks	2001,1060	SL		VNAP	IMPLICIT	-
Series Transmitted	2001,1061	CS		VNAP	AUTO	-
Acquisition Number	2001,107B	IS		ANAP	COPY	-
Number of Dynamic Scans	2001,1081	IS		VNAP	COPY	-
IsRawImage	2001,10A1	CS		ANAP	COPY	-
Prospective Motion Correction	2001,10F1	FL		ANAP	COPY	-
Retrospective Motion Correction	2001,10F2	FL		ANAP	COPY	-
Private Creator Group 2005	2005,0010	LO		ANAP	FIXED	-
Number of Chemical Shift	2005,1020	SL		ANAP	COPY	-
Syncra Scan Type	2005,10A1	CS		ANAP	COPY	-
Diffusion Direction RL	2005,10B0	FL		ANAP	COPY	-
Diffusion Direction AP	2005,10B1	FL		ANAP	COPY	-
Diffusion Direction FH	2005,10B2	FL		ANAP	COPY	-

2.1.2.11. MR Spectroscopy Storage SOP Class

Table 166: IOD of Created MR Spectroscopy Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS

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Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	MR Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	Enhanced General Equipment Module	ALWAYS
MR Spectroscopy	Acquisition Context Module	ALWAYS
MR Spectroscopy	Multi-frame Functional Groups Module (MR Spectroscopy)	ALWAYS
MR Spectroscopy	Multi-frame Dimension Module	ALWAYS
MR Spectroscopy	Cardiac Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	Respiratory Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	Bulk Motion Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	MR Spectroscopy Module	ALWAYS
MR Spectroscopy	MR Spectroscopy Pulse Sequence Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	MR Spectroscopy Data Module	ALWAYS
MR Spectroscopy	SOP Common Module	ALWAYS
	Extended DICOM and Private attributes	ALWAYS

Table 167: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-

Table 168: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

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>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 169: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 170: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	AUTO	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		ANAP	COPY	-
>Scheduled Protocol Code Sequence	0040,0008	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	-
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-

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>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 171: MR Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-

Table 172: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	COPY	-
Position Reference Indicator	0020,1040	LO		VNAP	FIXED	-

Table 173: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-

Table 174: Enhanced General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	COPY	
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
Device Serial Number	0018,1000	LO		ANAP	CONFIG	
Software Version(s)	0018,1020	LO	10.x	ANAP	COPY	

Table 175: Acquisition Context Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Context Sequence	0040,0555	SQ		ANAP	COPY	-

Table 176: Multi-frame Functional Groups Module (MR Spectroscopy)

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		ALWAYS	COPY	-
Content Time	0008,0033	TM		ALWAYS	COPY	-
Instance Number	0020,0013	IS		ALWAYS	COPY	-

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Number of Frames	0028,0008	IS		ALWAYS	COPY	-
Shared Functional Groups Sequence	5200,9229	SQ		VNAP	COPY	Always present in combination with the Per-frame Functional Groups Sequence (5200,9230)
>Pixel Measures Sequence	0028,9110	SQ		ALWAYS	COPY	-
>>Slice Thickness	0018,0050	DS		ANAP	COPY	-
>>Pixel Spacing	0028,0030	DS		ANAP	COPY	-
>Plane Position Sequence	0020,9113	SQ		ALWAYS	COPY	-
>>Image Position (Patient)	0020,0032	DS		ANAP	COPY	-
>Plane Orientation Sequence	0020,9116	SQ		ALWAYS	COPY	-
>>Image Orientation (Patient)	0020,0037	DS		ANAP	COPY	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Referenced Frame Number	0008,1160	IS		ANAP	COPY	-
>Cardiac Synchronization Sequence	0018,9118	SQ		ANAP	COPY	-
>>Nominal Cardiac Trigger Delay Time	0020,9153	FD		ALWAYS	COPY	-
>>R - R Interval Time Nominal	0020,9251	FD		ANAP	COPY	-
>Respiratory Synchronization Sequence	0020,9253	SQ		ANAP	COPY	-
>>Respiratory Interval Time	0020,9254	FD		ALWAYS	COPY	-
>>Nominal Respiratory Trigger Delay Time	0020,9255	FD		ALWAYS	COPY	-
>MR Spectroscopy Frame Type Sequence	0018,9227	SQ		ALWAYS	COPY	-
>>Frame Type	0008,9007	CS		ALWAYS	COPY	-
>>Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
>>Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
>>Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
>>Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-
>MR Timing and Related Parameters Sequence	0018,9112	SQ		ALWAYS	COPY	-
>>Repetition Time	0018,0080	DS		ANAP	COPY	-
>>Echo Train Length	0018,0091	IS		ANAP	COPY	-
>>Flip Angle	0018,1314	DS		ANAP	COPY	-
>>Operating Mode Sequence	0018,9176	SQ		ANAP	COPY	-
>>>Operating Mode Type	0018,9177	CS		ALWAYS	COPY	-
>>>Operating Mode	0018,9178	CS		ALWAYS	COPY	-
>>Gradient Output Type	0018,9180	CS		ANAP	COPY	-
>>Gradient Output	0018,9182	FD		ANAP	COPY	-
>>Specific Absorption Rate Sequence	0018,9239	SQ		ANAP	COPY	-
>>>Specific Absorption Rate Definition	0018,9179	CS		ALWAYS	COPY	-
>>>Specific Absorption Rate Value	0018,9181	FD		ALWAYS	COPY	-
>>RF Echo Train Length	0018,9240	US		ANAP	COPY	-

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>>Gradient Echo Train Length	0018,9241	US		ANAP	COPY	-
>MR Spectroscopy FOV/Geometry Sequence	0018,9103	SQ		ALWAYS	COPY	-
>>Percent Sampling	0018,0093	DS		ANAP	COPY	-
>>Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Rows	0018,9095	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Data Columns	0018,9127	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Out-of-plane Phase Steps	0018,9159	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Columns	0018,9234	UL		ANAP	COPY	-
>MR Echo Sequence	0018,9114	SQ		ALWAYS	COPY	-
>>Effective Echo Time	0018,9082	FD		ANAP	COPY	-
>MR Modifier Sequence	0018,9115	SQ		ALWAYS	COPY	-
>>Inversion Recovery	0018,9009	CS		ANAP	COPY	-
>>Flow Compensation	0018,9010	CS		ANAP	COPY	-
>>Spoiling	0018,9016	CS		ANAP	COPY	-
>>T2 Preparation	0018,9021	CS		ANAP	COPY	-
>>Spectrally Selected Excitation	0018,9026	CS		ANAP	COPY	-
>>Spatial Pre-saturation	0018,9027	CS		ANAP	COPY	-
>>Partial Fourier Direction	0018,9036	CS		ANAP	COPY	-
>>Parallel Reduction Factor In-plane	0018,9069	FD		ANAP	COPY	-
>>Parallel Acquisition	0018,9077	CS		ANAP	COPY	-
>>Parallel Acquisition Technique	0018,9078	CS		ANAP	COPY	-
>>Inversion Times	0018,9079	FD		ANAP	COPY	-
>>Partial Fourier	0018,9081	CS		ANAP	COPY	-
>>Parallel Reduction Factor out-of-plane	0018,9155	FD		ANAP	COPY	-
>>Parallel Reduction Factor Second In-plane	0018,9168	FD		ANAP	COPY	-
>>Flow Compensation Direction	0018,9183	CS		ANAP	COPY	-
>MR Receive Coil Sequence	0018,9042	SQ		ALWAYS	COPY	-
>>Receive Coil Name	0018,1250	SH		ANAP	COPY	-
>>Receive Coil Manufacturer Name	0018,9041	LO		EMPTY	COPY	-
>>Receive Coil Type	0018,9043	CS		ANAP	COPY	-
>>Quadrature Receive Coil	0018,9044	CS		ANAP	COPY	-
>>Multi-Coil Definition Sequence	0018,9045	SQ		ANAP	COPY	-
>>>Multi-Coil Element Name	0018,9047	SH		ALWAYS	COPY	-
>>>Multi-Coil Element Used	0018,9048	CS		ALWAYS	COPY	-
>MR Transmit Coil Sequence	0018,9049	SQ		ANAP	COPY	-
>>Transmit Coil Name	0018,1251	SH		ALWAYS	COPY	-
>>Transmit Coil Manufacturer Name	0018,9050	LO		EMPTY	COPY	-
>>Transmit Coil Type	0018,9051	CS		ANAP	COPY	-
>MR Diffusion Sequence	0018,9117	SQ		ANAP	COPY	-
>>Diffusion Directionality	0018,9075	CS		ANAP	COPY	-

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>>Diffusion Gradient Direction Sequence	0018,9076	SQ		ANAP	COPY	-
>>>Diffusion Gradient Orientation	0018,9089	FD		ANAP	COPY	-
>>Diffusion b-value	0018,9087	FD		ANAP	COPY	-
>>Diffusion Anisotropy Type	0018,9147	CS		ANAP	COPY	-
>>Diffusion b-matrix Sequence	0018,9601	SQ		ANAP	COPY	-
>MR Averages Sequence	0018,9119	SQ		ALWAYS	COPY	-
>>Number of Averages	0018,0083	DS		ANAP	COPY	-
>MR Spatial Saturation Sequence	0018,9107	SQ		ANAP	COPY	-
>>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>>Mid Slab Position	0018,9106	FD		ALWAYS	COPY	-
>MR Velocity Encoding Sequence	0018,9197	SQ		ANAP	COPY	-
>>Velocity Encoding Direction	0018,9090	FD		ANAP	COPY	-
>>Velocity Encoding Minimum Value	0018,9091	FD		ANAP	COPY	-
>>Velocity Encoding Maximum Value	0018,9217	FD		ANAP	COPY	-
>Frame Anatomy Sequence	0020,9071	SQ		ANAP	COPY	-
>>Frame Laterality	0020,9072	CS		ALWAYS	COPY	-
>>Anatomic Region Sequence	0008,2218	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Per-frame Functional Groups Sequence	5200,9230	SQ		ALWAYS	COPY	Always present in combination with the Shared Functional Groups Sequence (5200,9229)
>Pixel Measures Sequence	0028,9110	SQ		ALWAYS	COPY	-
>>Slice Thickness	0018,0050	DS		ANAP	COPY	-
>>Pixel Spacing	0028,0030	DS		ANAP	COPY	-
>Frame Content Sequence	0020,9111	SQ		ALWAYS	COPY	-
>>Frame Acquisition Datetime	0018,9074	DT		ANAP	COPY	-
>>Frame Reference Datetime	0018,9151	DT		ANAP	COPY	-
>>Frame Acquisition Duration	0018,9220	FD		ANAP	COPY	-
>>Stack ID	0020,9056	SH		ANAP	COPY	-
>>In-Stack Position Number	0020,9057	UL		ANAP	COPY	-
>Plane Position Sequence	0020,9113	SQ		ALWAYS	COPY	-
>>Image Position (Patient)	0020,0032	DS		ANAP	COPY	-
>Plane Orientation Sequence	0020,9116	SQ		ALWAYS	COPY	-
>>Image Orientation (Patient)	0020,0037	DS		ANAP	COPY	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Referenced Frame Number	0008,1160	IS		ANAP	COPY	-
>Cardiac Synchronization Sequence	0018,9118	SQ		ALWAYS	COPY	-

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>>Nominal Cardiac Trigger Delay Time	0020,9153	FD		ALWAYS	COPY	-
>>R - R Interval Time Nominal	0020,9251	FD		ANAP	COPY	-
>MR Timing and Related Parameters Sequence	0018,9112	SQ		ALWAYS	COPY	-
>>Repetition Time	0018,0080	DS		ANAP	COPY	-
>>Echo Train Length	0018,0091	IS		ANAP	COPY	-
>>Flip Angle	0018,1314	DS		ANAP	COPY	-
>>Operating Mode Sequence	0018,9176	SQ		ANAP	COPY	-
>>>Operating Mode Type	0018,9177	CS		ALWAYS	COPY	-
>>>Operating Mode	0018,9178	CS		ALWAYS	COPY	-
>>Gradient Output Type	0018,9180	CS		ANAP	COPY	-
>>Gradient Output	0018,9182	FD		ANAP	COPY	-
>>Specific Absorption Rate Sequence	0018,9239	SQ		ANAP	COPY	-
>>>Specific Absorption Rate Definition	0018,9179	CS		ALWAYS	COPY	-
>>>Specific Absorption Rate Value	0018,9181	FD		ALWAYS	COPY	-
>>RF Echo Train Length	0018,9240	US		ANAP	COPY	-
>>Gradient Echo Train Length	0018,9241	US		ANAP	COPY	-
>MR Echo Sequence	0018,9114	SQ		ALWAYS	COPY	-
>>Effective Echo Time	0018,9082	FD		ANAP	COPY	-
>Respiratory Synchronization Sequence	0020,9253	SQ		ANAP	COPY	-
>>Respiratory Interval Time	0020,9254	FD		ALWAYS	COPY	-
>>Nominal Respiratory Trigger Delay Time	0020,9255	FD		ALWAYS	COPY	-
>MR Modifier Sequence	0018,9115	SQ		ALWAYS	COPY	-
>>Inversion Recovery	0018,9009	CS		ANAP	COPY	-
>>Flow Compensation	0018,9010	CS		ANAP	COPY	-
>>Spoiling	0018,9016	CS		ANAP	COPY	-
>>T2 Preparation	0018,9021	CS		ANAP	COPY	-
>>Spectrally Selected Excitation	0018,9026	CS		ANAP	COPY	-
>>Spatial Pre-saturation	0018,9027	CS		ANAP	COPY	-
>>Partial Fourier Direction	0018,9036	CS		ANAP	COPY	-
>>Parallel Reduction Factor In-plane	0018,9069	FD		ANAP	COPY	-
>>Parallel Acquisition	0018,9077	CS		ANAP	COPY	-
>>Parallel Acquisition Technique	0018,9078	CS		ANAP	COPY	-
>>Inversion Times	0018,9079	FD		ANAP	COPY	-
>>Partial Fourier	0018,9081	CS		ANAP	COPY	-
>>Parallel Reduction Factor out-of-plane	0018,9155	FD		ANAP	COPY	-
>>Parallel Reduction Factor Second In-plane	0018,9168	FD		ANAP	COPY	-
>>Flow Compensation Direction	0018,9183	CS		ANAP	COPY	-
>MR Receive Coil Sequence	0018,9042	SQ		ANAP	COPY	-
>>Receive Coil Name	0018,1250	SH		ALWAYS	COPY	-
>>Receive Coil Manufacturer Name	0018,9041	LO		EMPTY	COPY	-
>>Receive Coil Type	0018,9043	CS		ANAP	COPY	-

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>>Quadrature Receive Coil	0018,9044	CS		ANAP	COPY	-
>>Multi-Coil Definition Sequence	0018,9045	SQ		ANAP	COPY	-
>>>Multi-Coil Element Name	0018,9047	SH		ALWAYS	COPY	-
>>>Multi-Coil Element Used	0018,9048	CS		ALWAYS	COPY	-
>MR Transmit Coil Sequence	0018,9049	SQ		ALWAYS	COPY	-
>>Transmit Coil Name	0018,1251	SH		ALWAYS	COPY	-
>>Transmit Coil Manufacturer Name	0018,9050	LO		EMPTY	COPY	-
>>Transmit Coil Type	0018,9051	CS		ANAP	COPY	-
>MR Diffusion Sequence	0018,9117	SQ		ANAP	COPY	-
>>Diffusion Directionality	0018,9075	CS		ANAP	COPY	-
>>Diffusion Gradient Direction Sequence	0018,9076	SQ		ANAP	COPY	-
>>>Diffusion Gradient Orientation	0018,9089	FD		ANAP	COPY	-
>>Diffusion b-value	0018,9087	FD		ANAP	COPY	-
>>Diffusion Anisotropy Type	0018,9147	CS		ANAP	COPY	-
>Frame Anatomy Sequence	0020,9071	SQ		ALWAYS	COPY	-
>>Frame Laterality	0020,9072	CS		ALWAYS	COPY	-
>>Anatomic Region Sequence	0008,2218	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>MR Spectroscopy Frame Type Sequence	0018,9227	SQ		ALWAYS	COPY	-
>>Frame Type	0008,9007	CS		ALWAYS	COPY	-
>>Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
>>Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
>>Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
>>Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-
>MR Spectroscopy FOV/Geometry Sequence	0018,9103	SQ		ALWAYS	COPY	-
>>Percent Sampling	0018,0093	DS		ANAP	COPY	-
>>Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Rows	0018,9095	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Data Columns	0018,9127	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Out-of-plane Phase Steps	0018,9159	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Columns	0018,9234	UL		ANAP	COPY	-
>MR Averages Sequence	0018,9119	SQ		ALWAYS	COPY	-
>>Number of Averages	0018,0083	DS		ANAP	COPY	-
>MR Spatial Saturation Sequence	0018,9107	SQ		ANAP	COPY	-
>>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>>Mid Slab Position	0018,9106	FD		ALWAYS	COPY	-
>MR Velocity Encoding Sequence	0018,9197	SQ		ANAP	COPY	-

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>>Velocity Encoding Direction	0018,9090	FD		ANAP	COPY	-
>>Velocity Encoding Minimum Value	0018,9091	FD		ANAP	COPY	-
>>Velocity Encoding Maximum Value	0018,9217	FD		ANAP	COPY	-

Table 177: Multi-frame Dimension Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Dimension Organization Sequence	0020,9221	SQ		ALWAYS	COPY	-
>Dimension Organization UID	0020,9164	UI		ALWAYS	COPY	-
Dimension Index Sequence	0020,9222	SQ		ALWAYS	COPY	-
>Dimension Organization UID	0020,9164	UI		ANAP	COPY	-
>Dimension Index Pointer	0020,9165	AT		ALWAYS	COPY	-
>Functional Group Pointer	0020,9167	AT		ANAP	COPY	-
>Dimension Index Private Creator	0020,9213	LO		ANAP	COPY	-
>Functional Group Private Creator	0020,9238	LO		ANAP	COPY	-

Table 178: Cardiac Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Low R-R Value	0018,1081	IS		ANAP	COPY	-
High R-R Value	0018,1082	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
Cardiac Synchronization Technique	0018,9037	CS		ANAP	COPY	-
Cardiac R-R Interval Specified	0018,9070	FD		ANAP	COPY	-
Cardiac Signal Source	0018,9085	CS		ANAP	COPY	-
Cardiac Beat Rejection Technique	0018,9169	CS		ANAP	COPY	-

Table 179: Respiratory Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Respiratory Motion Compensation Technique	0018,9170	CS		ANAP	COPY	-
Respiratory Signal Source	0018,9171	CS		ANAP	COPY	-
Respiratory Trigger Delay Threshold	0020,9256	FD		ANAP	COPY	-

Table 180: Bulk Motion Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Bulk Motion Compensation Technique	0018,9172	CS		ANAP	COPY	-

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Table 181: MR Spectroscopy Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY/ SPECTROSCOPY/ NONE	ALWAYS	AUTO	
Spectral Width	0018,9052	FD		ANAP	COPY	-
Chemical Shift Reference	0018,9053	FD		ANAP	COPY	-
Volume Localization Technique	0018,9054	CS		ANAP	COPY	-
De-coupling	0018,9059	CS		ANAP	COPY	-
De-coupled Nucleus	0018,9060	CS		ANAP	COPY	-
De-coupling Frequency	0018,9061	FD		ANAP	COPY	-
De-coupling Method	0018,9062	CS		ANAP	COPY	-
De-coupling Chemical Shift Reference	0018,9063	FD		ANAP	COPY	-
Time Domain Filtering	0018,9065	CS		ANAP	COPY	-
Number of Zero fills	0018,9066	US		ANAP	COPY	-
Baseline Correction	0018,9067	CS		ANAP	COPY	-
Transmitter Frequency	0018,9098	FD		ANAP	COPY	-
Frequency Correction	0018,9101	CS		ANAP	COPY	-
Volume Localization Sequence	0018,9126	SQ		ANAP	COPY	-
>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>Mid Slab Position	0018,9106	FD		ANAP	COPY	-
First Order Phase Correction	0018,9198	CS		ANAP	COPY	-
Water Referenced Phase Correction	0018,9199	CS		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Source Image Evidence Sequence	0008,9154	SQ		ANAP	COPY	-
>Referenced Series Sequence	0008,1115	SQ		ANAP	COPY	-
>>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
>>Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
>Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Magnetic Field Strength	0018,0087	DS		ANAP	COPY	-
Content Qualification	0018,9004	CS		ALWAYS	COPY	-
k-space Filtering	0018,9064	CS		ANAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	-
Resonant Nucleus	0018,9100	CS		ANAP	COPY	-
Applicable Safety Standard Agency	0018,9174	CS		ALWAYS	COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-

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Table 182: MR Spectroscopy Pulse Sequence Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pulse Sequence Name	0018,9005	SH		ANAP	COPY	-
Echo Pulse Sequence	0018,9008	CS		ANAP	COPY	-
Multiple Spin Echo	0018,9011	CS		ANAP	COPY	-
Multi-planar Excitation	0018,9012	CS		ANAP	COPY	-
Steady State Pulse Sequence	0018,9017	CS		ANAP	COPY	-
Echo Planar Pulse Sequence	0018,9018	CS		ANAP	COPY	-
Spectrally Selected Suppression	0018,9025	CS		ANAP	COPY	-
Geometry of k-Space Traversal	0018,9032	CS		ANAP	COPY	-
Segmented k-Space Traversal	0018,9033	CS		ANAP	COPY	-
Rectilinear Phase Encode Reordering	0018,9034	CS		ANAP	COPY	-
Number of k-Space Trajectories	0018,9093	US		ANAP	COPY	-
Coverage of k-Space	0018,9094	CS		ANAP	COPY	-
MR Spectroscopy Acquisition Type	0018,9200	CS		ANAP	COPY	-

Table 183: MR Spectroscopy Data Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO	-
Columns	0028,0011	US		ALWAYS	AUTO	-
Data Point Rows	0028,9001	UL		ALWAYS	AUTO	-
Data Point Columns	0028,9002	UL		ALWAYS	AUTO	-
Signal Domain Columns	0028,9003	CS		ALWAYS	AUTO	FREQUENCY
Data Representation	0028,9108	CS		ALWAYS	AUTO	-
First Order Phase Correction Angle	5600,0010	OF		ANAP	AUTO	-
Spectroscopy Data	5600,0020	OF		ALWAYS	AUTO	-

Table 184: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	FIXED	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-

Table 185: Extended DICOM and private attributes for MR Spectroscopy Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	AUTO	-
Acquisition Time	0008,0032	TM		ANAP	AUTO	-
Derivation Image Sequence	0008,9124	SQ		ANAP	AUTO	-
>Source Image Sequence	0008,2112	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-

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>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>>Code Value	0008,0100	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Version	0008,0103	SH		ANAP	AUTO	From CID 7203
>>Code Meaning	0008,0104	LO		ANAP	AUTO	From CID 7203
Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-
Pregnancy Status	0010,21C0	US		ANAP	COPY	-
Scanning Sequence	0018,0020	CS		ALWAYS	AUTO	{“RM”}
Sequence Variant	0018,0021	CS		ALWAYS	AUTO	{“NONE”}
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	Applied value: 1, 3
Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	AUTO	Applied values: MONOCHROME2
Planar Configuration	0028,0006	US		ANAP	AUTO	-
Window Center	0028,1050	DS		ANAP	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO	-
Rescale Intercept	0028,1052	DS		ANAP	AUTO	-
Rescale Slope	0028,1053	DS		ANAP	AUTO	-
Rescale Type	0028,1054	LO	normalized	ANAP	AUTO	Applied value(s): normalized
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		ANAP	COPY	-
Pixel Data	7FE0,0010	O W/ OB		ANAP	AUTO	-

2.1.2.12. RT Structure Set Storage SOP Class

Table 186: IOD of Created RT Structure Set Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	RT Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Structure Set	Structure Set Module	ALWAYS
Structure Set	ROI Contour Module	ALWAYS
Structure Set	RT ROI Observations Module	ALWAYS
Structure Set	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 187: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-

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>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		ALWAYS	COPY	-
Patient ID	0010,0020	LO		ALWAYS	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 188: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO	-

Table 189: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 190: RT Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Series Description	0008,103E	LO		ANAP	AUTO/ USER	-

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Series Description Code Sequence	0008,103F	SQ		ANAP	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 191: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 192: Structure Set Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Number	0020,0013	IS		ANAP	AUTO	-
Structure Set Label	3006,0002	SH		ALWAYS	AUTO, USER	-
Structure Set Name	3006,0004	LO		ANAP	AUTO, USER	-
Structure Set Description	3006,0006	ST		ANAP	AUTO, USER	-
Structure Set Date	3006,0008	DA		VNAP	AUTO	-
Structure Set Time	3006,0009	TM		VNAP	AUTO	-
Referenced Frame of Reference Sequence	3006,0010	SQ		ANAP	AUTO	-
>Frame of Reference UID	0020,0052	UI		ALWAYS	AUTO	-
>RT Referenced Study Sequence	3006,0012	SQ		ANAP	AUTO	-
>>RT Referenced Series Sequence	3006,0014	SQ		ALWAYS	AUTO	-

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>>>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
>>>Contour Image Sequence	3006,0016	SQ		ALWAYS	AUTO	-
>>>>Referenced Frame Number	0008,1160	IS		ANAP	AUTO	-
>>>>Referenced Segment Number	0062,000B	US		ANAP	AUTO	-
>>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Frame of Reference Relationship Sequence	3006,00C0	SQ		ANAP	AUTO	-
Structure Set ROI Sequence	3006,0020	SQ		ANAP	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>ROI Number	3006,0022	IS		ALWAYS	AUTO	-
>Referenced Frame of Reference UID	3006,0024	UI		ALWAYS	AUTO	-
>ROI Name	3006,0026	LO		VNAP	AUTO	-
>ROI Description	3006,0028	ST		ANAP	AUTO	-
>ROI Volume	3006,002C	DS		ANAP	AUTO	-
>ROI Generation Algorithm	3006,0036	CS		VNAP	AUTO	-
>ROI Generation Description	3006,0038	LO		ANAP	AUTO	-

Table 193: ROI Contour Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
ROI Contour Sequence	3006,0039	SQ		ALWAYS	AUTO	-
>ROI Display Color	3006,002A	IS		ANAP	AUTO	-
>Contour Sequence	3006,0040	SQ		ANAP	AUTO	-
>>Contour Image Sequence	3006,0016	SQ		ANAP	AUTO	-
>>>Referenced Frame Number	0008,1160	IS		ANAP	AUTO	-
>>>Referenced Segment Number	0062,000B	US		ANAP	AUTO	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>>Contour Geometric Type	3006,0042	CS		ALWAYS	AUTO	-
>>Contour Slab Thickness	3006,0044	DS		ANAP	AUTO	-
>>Contour Offset Vector	3006,0045	DS		ANAP	AUTO	-
>>Number of Contour Points	3006,0046	IS		ALWAYS	AUTO	-
>>Contour Number	3006,0048	IS		ANAP	AUTO	-
>>Attached Contours	3006,0049	IS		ANAP	AUTO	-
>>Contour Data	3006,0050	DS		ALWAYS	AUTO	-
>Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-

Table 194: RT ROI Observations Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
RT ROI Observations Sequence	3006,0080	SQ		ALWAYS	AUTO	-
>RT Related ROI Sequence	3006,0030	SQ		ANAP	AUTO	-

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>> Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-
>>RT ROI Relationship	3006,0033	IS		ANAP	AUTO	-
>Observation Number	3006,0082	IS		ALWAYS	AUTO	-
>Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-
>ROI Observation Label	3006,0085	SH		ANAP	AUTO	-
>RT ROI Identification Code Sequence	3006,0086	SQ		ANAP	AUTO	-
>ROI Observation Description	3006,0088	ST		ANAP	AUTO	-
>Related RT ROI Observations Sequence	3006,00A0	SQ		ANAP	AUTO	-
>> Observation Number	3006,0082			ALWAYS	AUTO	-
>RT ROI Interpreted Type	3006,00A4	CS		VNAP	AUTO	-
>ROI Interpreter	3006,00A6	PN		VNAP	AUTO	-
>Material ID	300A,00E1	SH		ANAP	AUTO	-
>ROI Physical Properties Sequence	3006,00B0	SQ		ANAP	AUTO	-
>>ROI Physical Property	3006,00B2	CS		ALWAYS	AUTO	-
>>ROI Elemental Composition Sequence	3006,00B6	SQ		ANAP	AUTO	-
>>>ROI Elemental Composition Atomic Number	3006,00B7	US		ALWAYS	AUTO	-
>>>ROI Elemental Composition Atomic Mass Fraction	3006,00B8	FL		ALWAYS	AUTO	-
>>ROI Physical Property Value	3006,00B4	DS		ALWAYS	AUTO	-

Table 195: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	
Instance Creator UID	0008,0014	UI		ANAP	AUTO	
SOP Class UID	0008,0016	UI		ALWAYS	COPY	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

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Table 196: Extended DICOM and private attributes for RT Structure Set Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modalities in Study	0008,0061	CS		ANAP	AUTO	-
Patient Orientation	0020,0020	CS		ANAP	AUTO	-

2.1.2.13. Secondary Capture Image Storage SOP Class

Table 197: IOD of Created Secondary Capture Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Device Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SC Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Modality LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Extended DICOM and Private attributes	Extended DICOM and Private attributes	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

Table 198: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 199: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-

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Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 200: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 201: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	-
Series Time	0008,0031	TM		ANAP	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-

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Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 202: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO		ANAP	COPY	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Spatial Resolution	0018,1050	DS		ANAP	COPY	
Date of Last Calibration	0018,1200	DA		ANAP	COPY	
Time of Last Calibration	0018,1201	TM		ANAP	COPY	
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	

Table 203: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS	OT	ANAP	AUTO, FIXED	
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	
Secondary Capture Device ID	0018,1010	LO		ANAP	AUTO	
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	
Secondary Capture Device Software Version(s)	0018,1019	LO		ANAP	AUTO	
Video Image Format Acquired	0018,1022	SH		ANAP	AUTO	
Digital Image Format Acquired	0018,1023	LO		ANAP	AUTO	

Table 204: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY	ANAP	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	AUTO, COPY	-

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Content Date	0008,0023	DA		ANAP	AUTO, COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Waveform Sequence	0008,113A	SQ		ANAP	AUTO	-
Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO, COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	AUTO, COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	AUTO, COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO, COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Instance Number	0020,0013	IS		ANAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	AUTO, COPY	-
Images in Acquisition	0020,1002	IS		ANAP	AUTO, COPY	-
Image Comments	0020,4000	LT		ANAP	AUTO, COPY	-
Quality Control Image	0028,0300	CS		ANAP	AUTO, COPY	-
Burned In Annotation	0028,0301	CS	YES	ANAP	AUTO, COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	AUTO, COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	AUTO, COPY	-
Lossy Image Compression Method	0028,2114	CS		ANAP	AUTO	-
Icon Image Sequence	0088,0200	SQ		ANAP	AUTO, COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-

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>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	AUTO, COPY	-

Table 205: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	3	ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO	-
Bits Stored	0028,0101	US	8	ALWAYS	AUTO	-
High Bit	0028,0102	US	7	ALWAYS	AUTO	-
Pixel Representation	0028,0103	US	0	ALWAYS	AUTO, COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	AUTO, COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	AUTO, COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	AUTO, COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	AUTO, COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	AUTO, COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	AUTO, COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	AUTO, COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	AUTO, COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	AUTO, COPY	-

Table 206: Device Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Device Sequence	0050,0010	SQ		ANAP	COPY	
>Manufacturer	0008,0070	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	COPY	

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>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Device ID	0018,1003	LO		ANAP	COPY	
>Device Length	0050,0014	DS		ANAP	COPY	
>Device Diameter	0050,0016	DS		ANAP	COPY	
>Device Diameter Units	0050,0017	CS		ANAP	COPY	
>Device Volume	0050,0018	DS		ANAP	COPY	
>Intermarker Distance	0050,0019	DS		ANAP	COPY	
>Device Description	0050,0020	LO		ANAP	COPY	
>Code Value	0008,0100	SH		ANAP	COPY	
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	
>Code Meaning	0008,0104	LO		ANAP	COPY	
>Mapping Resource	0008,0105	CS		ANAP	COPY	
>Context Group Version	0008,0106	DT		ANAP	COPY	
>Context Group Local Version	0008,0107	DT		ANAP	COPY	
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	
>Context Identifier	0008,010F	CS		ANAP	COPY	

Table 207: SC Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Date of Secondary Capture	0018,1012	DA		ANAP	AUTO	-
Time of Secondary Capture	0018,1014	TM		ANAP	AUTO	-

Table 208: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ANAP	COPY	-
Overlay Columns	6000,0011	US		ANAP	COPY	-
Overlay Description	6000,0022	LO		ANAP	COPY	-
Overlay Type	6000,0040	CS		ANAP	COPY	-
Overlay Subtype	6000,0045	LO		ANAP	COPY	-
Overlay Origin	6000,0050	SS		ANAP	COPY	-
Overlay Bits Allocated	6000,0100	US		ANAP	COPY	-
Overlay Bit Position	6000,0102	US		ANAP	COPY	-
ROI Area	6000,1301	IS		ANAP	COPY	-
ROI Mean	6000,1302	DS		ANAP	COPY	-
ROI Standard Deviation	6000,1303	DS		ANAP	COPY	-
Overlay Label	6000,1500	LO		ANAP	COPY	-
Overlay Data	6000,3000	OW/OB		ANAP	COPY	-

Table 209: Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	COPY	-
Rescale Slope	0028,1053	DS		ANAP	COPY	-
Rescale Type	0028,1054	LO		ANAP	COPY	-
Modality LUT Sequence	0028,3000	SQ		ANAP	COPY	-
>LUT Descriptor	0028,3002	US/SS		ANAP	COPY	-
>LUT Explanation	0028,3003	LO		ANAP	COPY	-

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>Modality LUT Type	0028,3004	LO		ANAP	COPY	-
>LUT Data	0028,3006	US/OW		ANAP	COPY	-

Table 210: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	COPY	-
Window Width	0028,1051	DS		ANAP	COPY	-
Window Center & Width Explanation	0028,1055	LO		ANAP	COPY	-
VOI LUT Sequence	0028,3010	SQ		ANAP	COPY	-

Table 211: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	
Instance Creator UID	0008,0014	UI		ANAP	AUTO	
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	FIXED, COPY	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	
Instance Number	0020,0013	IS		ANAP	AUTO	

Table 212: Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Type (PIIM)	2001,106E	SH	SCSERIES	ANAP	AUTO	
Curve Dimensions	50xx,0005	US		ANAP	AUTO	
Number of Points	50xx,0010	US		ANAP	AUTO	
Type of Data	50xx,0020	CS		ANAP	AUTO	
Data Value Representation	50xx,0103	US		ANAP	AUTO	
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	
Curve Description	50xx,0022	LO		ANAP	AUTO	
Axis Units	50xx,0030	SH		ANAP	AUTO	
Axis Labels	50xx,0040	SH		ANAP	AUTO	

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Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	
Curve Range	50xx,0106	SH		ANAP	AUTO	
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	
Curve Label	50xx,2500	LO		ANAP	AUTO	
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	

2.1.2.14. Key Object Selection Document Storage SOP Class

Table 213: IOD of Created Key Object Selection Document Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	Key Object Document Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Document	Key Object Document Module	ALWAYS
	SR Document Content Module	ALWAYS
Document	SOP Common Module	ALWAYS

Table 214: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-

Table 215: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	
Study ID	0020,0010	SH		VNAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	

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Table 216: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	-
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-

Table 217: Key Object Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-

Table 218: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Address	0008,0081	ST		ANAP	CONFIG	
Station Name	0008,1010	SH		ANAP	CONFIG	
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Institution Name	0008,0080	LO		ANAP	FIXED	

Table 219: Key Object Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Time	0008,0033	TM		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Current Requested Procedure Evidence Sequence	0040,A375	SQ		ALWAYS	AUTO, COPY	-
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
>Referenced Series Sequence	0008,1115	SQ		ALWAYS	AUTO, COPY	-
>>Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	-
>>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO, COPY	-

Table 220: SR Document Content Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Value Type	0040,A040	CS		ALWAYS	AUTO, COPY	-
Concept Name Code Sequence	0040,A043	SQ		ANAP	AUTO, COPY	-
>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	-
Observation Date Time	0040,A032	DT		ANAP	AUTO, COPY	-
Content Sequence	0040,A730	SQ		ANAP	AUTO, COPY	-

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>Relationship Type	0040,A010	CS		ALWAYS	AUTO, COPY	-
>Referenced SOP Sequence	0008,1199	SQ		ALWAYs	AUTO, COPY	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO, COPY	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO, COPY	-
>Value Type	0040,A040	CS		ALWAYS	AUTO, COPY	-
>Text Value	0040,A160	UT		ANAP	AUTO, COPY	-
>Concept Name Code Sequence	0040,A043	SQ		ANAP	AUTO, COPY	-
>>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	-
>Referenced SOP Sequence	0008,1199	SQ		ANAP	AUTO, COPY	-
>Continuity Of Content	0040,A050	CS		ALWAYS	AUTO, COPY	-
>Content Template Sequence	0040,A504	SQ		ANAP	AUTO, COPY	-
>>Mapping Resource	0008,0105	CS		ALWAYS	AUTO, COPY	-
>>Template Identifier	0040,DB00	CS		ALWAYS	AUTO, COPY	-

Table 221: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS		
Instance Number	0020,0013	IS		ANAP		
Specific Character Set	0008,0005	CS		ANAP	AUTO	
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.88.59	ALWAYS		
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	
>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	

2.1.2.15. X-Ray Radio fluoroscopic Image Storage SOP Class

Table 222: IOD of Created X-Ray Radio fluoroscopic Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image	ALWAYS

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	Image Pixel	ALWAYS
	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	Cine Module	CONDITIONAL - IF PIXEL DATA IS MULTI-FRAME CINE DATA
	X-Ray Image Module	ALWAYS
	X-Ray Acquisition Module	ALWAYS
	VOI LUT Module	CONDITIONAL– IF PRESENT IN THE SOURCE DATA
	SOP Common Module	ALWAYS

Table 223: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	

Table 224: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	
Study Time	0008,0030	TM		VNAP	COPY	
Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Study Instance UID	0020,000D	UI		ALWAYS	COPY	
Study ID	0020,0010	SH		VNAP	COPY	

Table 225: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient’s Age	0010,1010	AS		VNAP	COPY	
Patient's Size	0010,1020	DS		VNAP	COPY	
Patient's Weight	0010,1030	DS		VNAP	COPY	

Table 226: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	
Series Time	0008,0031	TM		ANAP	COPY	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	COPY	
Performing Physicians’ Name	0008,1050	PN		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Body Part Examined	0018,0015	CS		ANAP	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	COPY	
Series Number	0020,0011	IS		VNAP	COPY	

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Table 227: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Station Name	0008,1010	SH		ANAP	CONFIG	
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Institution Name	0008,0080	LO		ANAP	CONFIG	

Table 228: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	COPY	
Acquisition Date	0008,0022	DA		ANAP	COPY	
Content Date	0008,0023	DA		ANAP	COPY	
Acquisition Time	0008,0032	TM		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Derivation Description	0008,2111	ST		ANAP	COPY	
Source Image Sequence	0008,2112	SQ		ANAP	COPY	
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	
>Purpose Of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	
>>Code Value	0008,0100	SH		ANAP	COPY	
>>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	
>>Code Meaning	0008,0104	LO		ANAP	COPY	
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>Code Meaning	0008,0104	LO		ALWAYS	COPY	
Acquisition Number	0020,0012	IS		ANAP	COPY	
Instance Number	0020,0013	IS		VNAP	AUTO	
Patient Orientation	0020,0020	CS		VNAP	COPY	

Table 229: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	
Rows	0028,0010	US		ALWAYS	COPY	
Columns	0028,0011	US		ALWAYS	COPY	
Bits Allocated	0028,0100	US		ALWAYS	COPY	
Bits Stored	0028,0101	US		ALWAYS	COPY	
High Bit	0028,0102	US		ALWAYS	COPY	

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Pixel Representation	0028,0103	US		ALWAYS	COPY	
Pixel Data	7FE0,0010	OW		ALWAYS	COPY	

Table 230: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 231: Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time Vector	0018,1065	DS		ALWAYS	COPY	

Table 232: X-Ray Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	FIXED	
Derivation Description	0008,2111	ST		ANAP	COPY	
Samples per Pixel	0028,0002	US		ALWAYS	COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	
Bits Allocated	0028,0100	US		ALWAYS	COPY	
Bits Stored	0028,0101	US		ALWAYS	COPY	
High Bit	0028,0102	US		ALWAYS	COPY	
Pixel Representation	0028,0103	US		ALWAYS	COPY	
Pixel Intensity Relationship	0028,1040	CS		ALWAYS	COPY	

Table 233: X-Ray Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
KVP	0018,0060	DS		VNAP	COPY	
Exposure Time	0018,1150	IS		ANAP	COPY	
X-Ray Tube Current	0018,1151	IS		ANAP	COPY	
Exposure	0018,1152	IS		ANAP	COPY	
Radiation Setting	0018,1155	CS		ALWAYS	COPY	

Table 234: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	COPY	
Window Width	0028,1051	DS		ALWAYS	COPY	

Table 235: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Number	0020,0013	IS		ANAP	COPY	
Specific Character Set	0008,0005	CS		ALWAYS	COPY	
SOP Class UID	0008,0016	UI		ALWAYS	COPY	
Contributing Equipment Sequence	0018,A001	SQ		ANAP	COPY	

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>Manufacturer	0008,0070	LO		ALWAYS	COPY	
>Institution Address	0008,0081	ST		ANAP	COPY	
>Station Name	0008,1010	SH		ANAP	COPY	
>Institutional Department Name	0008,1040	LO		ANAP	COPY	
>Software Version(s)	0018,1020	LO		ANAP	COPY	
>Device Serial Number	0018,1000	LO		ANAP	COPY	
>Institution Name	0008,0080	LO		ANAP	COPY	
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	
>Contribution DateTime	0018,A002	DT		ANAP	COPY	
>Contribution Description	0018,A003	ST		ANAP	COPY	
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	
>>Code Value	0008,0100	SH		ALWAYS	COPY	
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	

2.1.2.16. X-Ray Angiographic Storage SOP Class

Table 236: IOD of Created X-Ray Angiographic Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image	ALWAYS
	Image Pixel	ALWAYS
	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	Cine Module	CONDITIONAL- IF PIXEL DATA IS MULTI-FRAME CINE DATA
	Multi-Frame Module	CONDITIONAL- IF PIXEL DATA IS MULTI-FRAME CINE DATA
	Display Shutter Module	CONDITIONAL– IF PRESENT IN THE SOURCE DATA
	X-Ray Image Module	ALWAYS
	X-Ray Acquisition Module	ALWAYS
	VOI LUT Module	CONDITIONAL– IF PRESENT IN THE SOURCE DATA
	SOP Common Module	ALWAYS
	X-Ray Table Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	XA Positioner Module	ALWAYS
	DX Detector Module	CONDITIONAL– IF PRESENT IN THE SOURCE DATA
	Modality LUT Module	CONDITIONAL - If Pixel Intensity Relationship(0028,1040) is LOG

Table 237: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	
Patient ID	0010,0020	LO		VNAP	COPY	
Patient's Birth Date	0010,0030	DA		VNAP	COPY	
Patient's Sex	0010,0040	CS		VNAP	COPY	

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Table 238: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	
Study Time	0008,0030	TM		VNAP	COPY	
Accession Number	0008,0050	SH		VNAP	COPY	
Referring Physician's Name	0008,0090	PN		VNAP	COPY	
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	
Study Description	0008,1030	LO		ANAP	COPY	
Study Instance UID	0020,000D	UI		ALWAYS	COPY	
Study ID	0020,0010	SH		VNAP	COPY	

Table 239: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	
Patient's Size	0010,1020	DS		ANAP	COPY	
Patient's Weight	0010,1030	DS		ANAP	COPY	

Table 240: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	
Series Time	0008,0031	TM		ANAP	COPY	
Modality	0008,0060	CS		ALWAYS	COPY	
Series Description	0008,103E	LO		ANAP	COPY	
Operators' Name	0008,1070	PN		ANAP	COPY	
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	
> Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	
> Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	
Protocol Name	0018,1030	LO		ANAP	COPY	
Series Instance UID	0020,000E	UI		ALWAYS	COPY	
Series Number	0020,0011	IS		VNAP	COPY	
Laterality	0020,0060	CS		ANAP	COPY	
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	

Table 241: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Station Name	0008,1010	SH		ANAP	COPY	
Manufacturer's Model Name	0008,1090	LO	Intellispace Portal	ANAP	FIXED	
Software Version(s)	0018,1020	LO	10.x	ANAP	FIXED	
Institution Name	0008,0080	LO		ANAP	COPY	

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Device Serial Number	0018,1000	LO		ANAP	COPY	
Institutional Department Name	0008,1040	LO		ANAP	COPY	

Table 242: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Derived	ALWAYS	FIXED	
Content Date	0008,0023	DA		ANAP	COPY	
Content Time	0008,0033	TM		ANAP	COPY	
Instance Number	0020,0013	IS		VNAP	COPY	
Patient Orientation	0020,0020	CS		ANAP	COPY	
Lossy Image Compression	0028,2110	CS		ANAP	COPY	

Table 243: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	
Rows	0028,0010	US		ALWAYS	COPY	
Columns	0028,0011	US		ALWAYS	COPY	
Bits Allocated	0028,0100	US		ALWAYS	COPY	
Bits Stored	0028,0101	US		ALWAYS	COPY	
High Bit	0028,0102	US		ALWAYS	COPY	
Pixel Representation	0028,0103	US		ALWAYS	COPY	
Pixel Data	7FE0,0010	OW		ALWAYS	COPY	

Table 244: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 245: Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time Vector	0018,1065	DS		ALWAYS	COPY	
Recommended Display Frame Rate	0008,2144	IS		ANAP	COPY	
Cine Rate	0018,0040	IS		ANAP	COPY	

Table 246: Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	IS		ALWAYS	COPY	
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	

Table 247: Display Shutter Module Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Shutter Shape	0018,1600	CS		ALWAYS	COPY	
Shutter Left Vertical Edge	0018,1602	IS		ALWAYS	COPY	

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Shutter Right Vertical Edge	0018,1604	IS		ALWAYS	COPY	
Shutter Upper Horizontal Edge	0018,1606	IS		ALWAYS	COPY	
Shutter Lower Horizontal Edge	0018,1608	IS		ALWAYS	COPY	

Table 248: X-Ray Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Derived	ALWAYS	FIXED	
Lossy Image Compression	0028,2110	CS		ALWAYS	COPY	
Samples per Pixel	0028,0002	US		ALWAYS	COPY	
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	
Bits Allocated	0028,0100	US		ALWAYS	COPY	
Bits Stored	0028,0101	US		ALWAYS	COPY	
High Bit	0028,0102	US		ALWAYS	COPY	
Pixel Representation	0028,0103	US		ALWAYS	COPY	
Pixel Intensity Relationship	0028,1040	CS		ALWAYS	COPY	
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	

Table 249: X-Ray Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
KVP	0018,0060	DS		VNAP	COPY	
Imager Pixel Spacing	0018,1164	DS		ANAP	COPY	
Exposure	0018,1152	IS		ANAP	COPY	
Radiation Setting	0018,1155	CS		ALWAYS	COPY	

Table 250: X-Ray Table Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Table Motion	0018,1134	CS		VNAP	COPY	

Table 251: XA Positioner Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Distance Source to Detector	0018,1110	DS		VNAP	COPY	
Distance Source to Patient	0018,1111	DS		VNAP	COPY	
Positioner Motion	0018,1500	CS		VNAP	COPY	
Positioner Primary Angle	0018,1510	DS		VNAP	COPY	
Positioner Secondary Angle	0018,1511	DS		VNAP	COPY	

Table 252: DX Detector Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Imager Pixel Spacing	0018,1164	DS		ALWAYS	COPY	

Table 253: Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality LUT Sequence	0028,3000	SQ		ANAP	COPY	

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> LUT Descriptor	0028,3002	US		ANAP	COPY	
> Modality LUT Type	0028,3004	LO		ANAP	COPY	
> LUT Data	0028,3006	US		ANAP	COPY	

Table 254: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	COPY	
Window Width	0028,1051	DS		ANAP	COPY	

Table 255: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Number	0020,0013	IS		ANAP	COPY	
Specific Character Set	0008,0005	CS		ALWAYS	COPY	
SOP Class UID	0008,0016	UI		ALWAYS	COPY	
Instance Creation Time	0008,0013	TM		ANAP	COPY	

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